



# Question Generation

By  
Sharon M. Look



---

# Acknowledgments

Special thanks to...

Drs. Michael Kamil and Gerald Duffy for their content review of this book.

Dr. Roger J. Chesswas for his support, vision, and leadership in directing the Pacific CHILD Randomized Control Trial.

Reading Advisory Panel members: Drs. Michael Kamil, Dorothy Strickland, Anne Cunningham, Gerald Duffy, and Jana Echevarria.

Jennifer F.M. Padua and Susan Hanson for their support and assistance with this book.

REL Pacific staff for their hard work and dedication to the Pacific CHILD study.

Patti Brown, Kathy Barr, Ellen Miyasato, Kalei Arinaga, Pat Uehara, and Jackie McMurray for their sharing .

Our Pacific CHILD Teachers in Hawai'i, the Commonwealth of the Northern Mariana Islands, and American Samoa: We appreciate the many learning opportunities and your commitment to helping us gather information on how to improve teacher knowledge and practice and students' reading comprehension.

Cover Picture: Jennifer F.M. Padua

This product was funded by the U.S. Department of Education's Institute of Education Sciences (IES) under the Regional Educational Laboratory Pacific administered by Pacific Resources for Education and Learning, award number ED-06-CO-0024. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

# Question Generation

## Contents

Introduction .....	2
A Teacher’s Story.....	5
What is Question Generation?.....	9
Why is Question Generation Important? .....	11
What is the Question Generation Strategy?.....	13
How to Teach the Question Generation Strategy .....	15
Prerequisite Skills Needed for the Question Generation Strategy.....	17
Setting the Stage – Creating a Questioning Environment .....	18
Prerequisite Skill – Asking and Answering Questions .....	20
Prerequisite Skill – Turning a Statement into a Question and Answering the Question .....	28
Prerequisite Skill – Finding Important Ideas.....	32
Prerequisite Skill – Turning Important Idea Statements into Integrative Questions .....	39
Prerequisite Skill – Answering an Integrative Question .....	41
Recursive Process of Creating and Answering Integrative Questions .....	42
Question Generation Process – Putting It All Together .....	49
Overview of Key Points .....	64
References.....	65
Appendices.....	66

## Introduction

**A**s students progress through school, the content learned is often factual. Many students have too few experiences and/or lack the background knowledge needed to comprehend specific content areas.

Questioning is an important tool for all learners. In school, teachers can instruct, encourage, and guide students toward asking productive questions that help build background knowledge, clear up confusion, and/or extend student thinking.

Questioning can also improve students' reading comprehension. There are many different effective questioning strategies. Readers can pose questions before, during, and after reading. Posing questions before reading can help students build background knowledge, link to their prior knowledge, and make predictions about the text. Asking questions during reading is a way to monitor comprehension and check predictions. Questioning after reading can help students summarize the text and explore further areas of study.

Asking questions before and after reading serves an important role in comprehension. However, the focus of *Effective Instructional Strategies: Question Generation* is how to teach your students to use the strategy of questioning while reading, concentrating mostly on using the main, or important, idea as the basis for questioning.

### A Teacher's Story

In *Effective Instructional Strategies: Question Generation*, the importance of teaching question generation during reading is highlighted through one teacher's journey. "A Teacher's Story" follows a novice fourth grade teacher, Mr. Keani, as he experiences the successes and challenges of building the many prerequisite skills needed for question generation and implementing the question generation strategy itself. Probably the biggest challenge is the number of prerequisite skills students need to develop in order to effectively use the question generation strategy. The prerequisite skills highlighted in this book are asking and answering questions, turning a statement into a question and answering it, finding the important ideas in a text, and turning the important idea into an integrative question and answering it. (See Figure 1 on page 17.)

"A Teacher's Story" begins with the teacher creating a questioning classroom environment that encourages students to ask questions rather than the teacher asking questions. Next he builds his students' questioning skills, that is, their question asking and answering skills. He teaches easier questions first (for example, *when* and

where questions) and then moves on to more difficult questions (for example, *why* and *how* questions). Then the teacher works on turning a statement into a question and answering the question, followed by finding the important idea. Next, he works with students to turn the important idea into an integrative question and answering the question. And finally, the teacher implements the question generation strategy.

*Note: All persons in “A Teacher’s Story” and related vignettes are fictional.*

## **Purpose of Book**

The purpose of *Question Generation* is to present the research supporting these key practices and provide practical information to help the reader take these examples and apply them in the classroom with students. The book begins by defining the concept of question generation and the research supporting how questioning before, during, and after reading enhances learning. Next, it follows the teacher’s journey by detailing one specific question generation strategy, how to explicitly teach this strategy, and describes the various components and prerequisite skills needed to implement the strategy. And finally, it explains how to put the individual elements together for a complete questioning strategy. It is important to note that although “A Teacher’s Story” follows a fourth grade teacher, the question generation strategy can be taught to and used by all readers. The ideas presented can be adjusted for various levels and amounts of text.

## **Format of Book**

Throughout *Question Generation*, concepts are presented first, followed by possible teaching ideas and/or a vignette from Mr. Keani’s experiences that provide illustrative examples and additional potential instructional ideas. The practical teaching ideas are marked with the icon “💡” For an activity to be effective, it is imperative that before students work independently, teachers explicitly articulate the activity’s importance as well as when and how to use it.

## **How to Use This Book**

*Question Generation* presents one specific question generation strategy and highlights several key prerequisite skills. The intended audience is educators of all levels. It is suggested that you first read the book in its entirety to get a clear picture of the strategy. Then, depending on the level of expertise and experience, you may pick and choose the sections that meet your individual needs.

The framework for this book is the Pacific Communities with High-performance In Literacy Development (Pacific CHILD) program implemented by the Regional Educational Laboratory Pacific (REL Pacific), as part of a randomized control study in the Pacific region. Pacific CHILD is a principles-based professional development

program consisting of research-based teaching and learning strategies proven to help improve students' reading comprehension using informational text. The REL Pacific staff spent more than two years working alongside teachers as they implemented the question generation strategy.

## A Teacher's Story

### Space. Planets. Stars.

**M**r. Keani is excited because today he is teaching about the solar system, one of his favorite topics. He hopes his enthusiasm is contagious and his students become just as excited about the topic. However, Mr. Keani is also apprehensive because he is going to use a KWL chart for the first time. He learned how to use KWL charts in graduate school but forgot about them with the deluge of information from all his studies. Mr. Keani, a second-year teacher, spent his first year working on classroom management and is now eager to turn his focus to implementing different instructional ideas.

His fourth grade students return from recess and quickly settle into their chairs and desks.

*Boys and girls, I'm delighted to work with you today as we learn more about our solar system! Please turn and talk to your neighbor and tell them what you know about the solar system. You may want to begin with I know the solar system . . .*

The volume in the room gradually grows louder as students activate their background knowledge. Mr. Keani circulates around the room and hears a pair of students sharing.

*I know the solar system has planets.*

*I know the solar system has stars.*

*I know the space shuttle goes into space.*

Mr. Keani brings the students back to whole group and explains the KWL chart. Students enthusiastically contribute information to the K column, or What I Know column, of the chart.

*Great!* says Mr. Keani. *We know quite a lot about our solar system, such as the sun gives us light and warmth. Let's move on to the W column, or the What We Want to Learn part of our chart. This is where we write down questions we have about our solar system. What questions do you have? What do you want to learn about the solar system?*

The students are quiet. Mr. Keani wonders if students are unresponsive because they aren't accustomed to asking questions. As the teacher, he is the person asking almost all of the questions in class. He decides to model how to ask questions.

*Okay, let me start. I wonder . . . how far is Earth from the sun? I wonder . . . what planet is the coldest?*

Mr. Keani writes these questions on the chart.

He turns to the students and asks, *What do you want to know about our solar system?*

Students look down or start fiddling with their pencils to avoid eye contact. Once again, Mr. Keani is met with silence.

Mr. Keani becomes flustered and confused. He reverts to his old style of teaching and asks students to read the text silently and to then answer the comprehension questions for homework. He is disappointed and deflated that his foray into using an unfamiliar teaching technique was unsuccessful. He hoped the KWL chart would build student excitement and curiosity about the solar system. Instead, Mr. Keani continues relying on his old style of teaching for the remainder of the solar system unit. After reviewing the students' homework and administering an assessment at the end of the unit, he determined students didn't learn the content. Mr. Keani reflects on his teaching of the unit.

*What can I do to help my students learn the content?* he wonders.

Mr. Keani recalls his mentor teacher, Ms. Alohi, talking in the lunchroom about her success with questioning during reading and the importance of questioning in the classroom. He meets with Ms. Alohi and asks for her help. He wants to learn more about how he can assist students with generating their own questions. Mr. Keani hopes that by teaching his students to ask questions, they will eventually start to ask questions while reading just as good readers do.

Ms. Alohi and Mr. Keani meet repeatedly. During their meetings, Ms. Alohi shares her notes and handouts from a recent professional development class about question generation. Ms. Alohi points out that there are many different questioning strategies that fall under the question generation umbrella. These include questioning before, during, and after reading as well as some that combine all of these. However, the focus of the professional development class was on one specific question generation strategy. This particular question generation strategy has four distinct steps for students to follow.

### ***Question Generation Steps***

1. Read the text.
2. Find the important idea.
3. Turn the important idea into a question.
4. Answer the question.



She also commiserates with Mr. Keani.

*I understand your frustration, she says. My students were practically silent when it came to volunteering questions. But now they are much more confident. In fact, they ask questions all the time! I've been able to parlay that skill into asking questions during reading. And we've also worked on answering the questions posed while reading. I've noticed a big improvement with student engagement and comprehension since we began using the question generation strategy.*

Mr. Keani also observes Ms. Alohi implementing the strategy in her class using a social studies text. They meet before each observation to discuss the goals of the lesson and then after to debrief the lesson.

During the first observation, Mr. Keani notices students actively engaging the text and each other. Students work with partners to read, underline the important ideas, ask questions about the important ideas, and answer their questions. When Ms. Alohi brings the class back to whole group, students excitedly share their questions and answers. A few jump out of their seats to share with the class.

During the postlesson debrief, Mr. Keani exclaims, *Wow! I can't believe how gung ho your students are about asking questions while reading. They were just as excited to reread to find the answer! How can I get my students excited to ask questions while reading?*

Ms. Alohi replies, *I think it starts with small steps toward building the skills needed for the question generation strategy. One of the first things I did was build an environment that fosters questioning. I had to shift my thinking and let go of the control in the classroom, so to speak. It was hard to shift to having students ask the questions rather than me. We've discussed how this could be your first step too and how it is a scaffold for students to eventually ask questions while reading.*

*The important piece here is that the question generation strategy requires many different and distinct skills. You have to teach each one explicitly and also show students how each piece fits into the entire strategy.*

*That said, other teachers have taught this strategy in a nonlinear fashion. In other words, some teachers didn't wait for students to master each distinct skill. Instead, the teachers scaffolded the skills to allow the students to complete the entire strategy.*

*Regardless of your approach, keep in mind that teaching question generation is similar to teaching other comprehension strategies. Modeling, thinking aloud, and scaffolding combined with a gradual release of the learning responsibility to students are of utmost importance. If you provide the appropriate support structures, your students will learn to use the question generation strategy independently. Because of this, I've seen my students' reading comprehension improve since implementing this strategy.*

*And another important thing to keep in mind is that just like teaching other reading comprehension strategies, the question generation strategy can be used in any content area. In fact, I use it with social studies and science texts.*

*But we can discuss your approach and the content areas you want to use the strategy in later. Right now you just need to get started.*

*Great! Where did you say I should start?* asks Mr. Keani.

*I think the best place to start is to understand why questioning is important and how to build a questioning environment. I can help you with this,* Ms. Alohi responded.

Mr. Keani agrees. *Okay, thanks. I'll start by rereading your notes about question generation to help me learn more about why questioning is important. Then I would like you to help me create a questioning environment for my students.*

*Fair enough,* replies Ms. Alohi. *Just let me know when you're done rereading and ready to embark upon your question generation journey with your students!*

## What is Question Generation?

**Q**uestion generation is a reading comprehension strategy whereby readers ask and answer meaningful questions about the text's important or main ideas while reading (National Institute of Child Health and Human Development [NICHD], 2000). By asking questions, students actively engage and interact with the text. Students become aware of their ability to answer their questions and ultimately have a deeper understanding of the text. And finally, when using the question generation strategy, students pose and answer their own questions rather than only answering questions posed by the teacher. This shifts responsibility for learning from the teacher to the student.

Question generation is important because it ultimately improves students' understanding of the text and teaches them to become independent self-questioners. "The assumption is that readers will learn more and construct better memory representation when self-questions are asked while reading." (NICHD, 2000, pp. 4–89) The National Reading Panel's examination of reading research concluded that question generation is a strategy that can improve reading comprehension (NICHD, 2000). "When students know how to ask questions before, during, and after reading, they have learned an important strategy for comprehending and constructing meaning." (Vacca, Vacca, & Gove, 2000, p. 232.) And finally, Rosenshine, Meister, and Chapman's (1996) review of question generation studies found the rationale for teaching the strategy is that it is "a means of providing active processing, central focusing, and other comprehension-fostering and comprehension-monitoring activities." (Rosenhine et al., p. 197)

As an adult reader, think about your cognitive process while reading. In all likelihood, questioning before, during, and after reading is something you naturally do but don't think about (Harvey & Goudvis, 2000). For example, when reading about the benefits of a high-fiber diet, you naturally may ask what happens if you don't eat enough fiber. Or if you become confused while reading how fiber affects the digestive system, you reread the text to clear up your confusion. Teaching students to ask questions while reading helps the students see how this strategy assists with comprehension. Teaching question generation also increases students' awareness of whether they are understanding the text while reading (NICHD, 2000).

Good readers demonstrate different behaviors than struggling readers. Good readers ask questions while reading. Asking questions requires readers to think about what the author is trying to convey. They ask questions such as *What are the important ideas? What is the author trying to tell the reader? What is the author's purpose for writing?*

As they read, they try to locate the answers to those questions. When students ask questions, they engage in the same process of consciously thinking about the text. They combine the new information and their existing background knowledge to formulate a new understanding.

## Why is Question Generation Important?

Specifically, question generation is important for these reasons:

- **Question generation improves students' thinking about and understanding of the text.**  
Rosenshine, Meister, and Chapman's (1996) review of question generation research found that generating questions resulted in improved reading comprehension. Specifically, question generation improves reading comprehension because it centers students' attention on the content being read and its important ideas (Rosenshine, et al.; Oczkus, 2003). Also, "as kids continue reading or rereading to clarify meaning or answer a question, they often clear up their confusion or find the answer in the text" (Harvey & Goudvis, 2000, p. 85). Finally, students must synthesize the information read in order to compose their own questions (Rosenshine, et al.).
- **Question generation promotes active reading and processing.**  
Readers actively work with the text to find important ideas and ask and answer questions about these ideas. In order to answer these questions, readers must examine the text, incorporate their own background knowledge, and amalgamate the information. Reading becomes an active process as the reader applies information acquired rather than passively collecting knowledge.
- **Question generation increases students' awareness of whether or not they are comprehending what they are reading.**  
Students monitor their reading comprehension by figuring out if they understood what they just read. As students pose and successfully answer questions as they read, they are aware of their understanding of the text. When they cannot answer a question they pose, students realize their lack of comprehension and must continue reading or must reread to find the answer. This process helps clarify the text's important ideas (Harvey & Goudvis, 2000).
- **Question generation helps students recall important ideas about new content.**  
Asking and answering questions about the important ideas directs student attention to the main points in the text. According to Davey and McBride (1986), "Readers who actively attend to and elaborate important and implied passage information tend to comprehend and recall more of this information." (p. 45)

- **Question generation motivates students because they are answering their own questions rather than those posed by the teacher and/or the text.**

Students may be more motivated to answer their own questions as opposed to answering teacher-created questions (Rosenshine et al., 1996). This shifts responsibility for learning from the teacher to the student. Student motivation may also be boosted by teachers using student-created questions as a part of their assessment. And finally, by asking and answering their own questions, students create their own content study guide (Pacific Resources for Education and Learning, 2008b).

- **Question generation helps students set their own purposes for reading.**

Question generation gives students a purpose for reading. Students set their own purpose for reading by asking questions and seeking answers while reading. Students actively examine the text to find the important ideas and turn the important ideas into questions. Students must search the text, incorporate their own background knowledge, and put it all together to formulate an answer.

- **Question generation stimulates students' curiosity.**

As students pose questions about important ideas, they also draw on their prior knowledge about the topic. The combination of new and prior knowledge can lead students to ask more questions about the topic and pique their curiosity.

- **Question generation helps all students improve reading comprehension regardless of reading level.**

Davey and McBride (1986) found that questioning after reading improved reading comprehension of all students regardless of their reading level. They also found that having students “generate higher order questions following the reading of expository material appears to assist young students, regardless of reading skill, in the recall of higher order information.” (p. 46)

## A Teacher's Story – Where to Start?

Mr. Keani reviews the research presented in Ms. Alohi's professional development materials. Afterward, Mr. Keani and Ms. Alohi meet.

*I see why questioning is important to student learning. It improves students' reading comprehension, both in understanding what's been read and in recall of information. And it also gives them ownership of their own learning. Looking back and reflecting on how I've been teaching shows me that I ask almost all the questions in class. Students only ask mundane questions like "Are we studying science today?" To be honest, I'm a little discouraged and overwhelmed,* says Mr. Keani.

*Replies Ms. Alohi, I felt the same way. What helped me was to first understand that question generation encompasses many different strategies and this is just one specific strategy. It also helped to then look at the big picture—the four steps of this distinct question generation strategy.*

Ms. Alohi shows Mr. Keani a handout detailing the four steps of the question generation strategy.

### What is the Question Generation Strategy?

When students use the question generation strategy, they do the following:

1. Read the text.
2. Find the important idea.
3. Turn the important idea into an integrative question.\*
4. Answer the question.

\*An integrative question is a question that synthesizes the important ideas and details from different parts of the text (NICHD, 2000). An integrative question requires students to identify and put together the important information from the text to answer it. In other words, an integrative question cannot be answered by one or two sentences in the text. For example, an integrative question may be: "Why is the top layer of the ocean called the sunlight layer?" A nonintegrative question may be: "What is the top layer of the ocean called?"

*Continues Ms. Alohi, Then I found it helpful to break down each step into the different skills needed to complete it. This way I wouldn't get overwhelmed. I knew that if I didn't have a clear picture of the strategy and skills needed, I would just end up confusing my students instead of helping them.*

*And one of the biggest takeaway ideas from the question generation professional development was that teaching question*

*generation requires me to be really explicit with my teaching. After the seminar, I went home and reread some of my teaching books. It really helped to review what explicit teaching looks like.*

*So why don't we start there too? I know that you're recently out of graduate school, but I think reviewing explicit teaching first is a good idea. Then we could look at the skills needed for the question generation strategy. I think by doing it this way you will feel much less overwhelmed. Remember, as learners we need complex concepts chunked and scaffolded for us, just like our students do!*

Mr. Keani nods in agreement, and they begin discussing how to explicitly teach question generation.



## How to Teach the Question Generation Strategy

Explicit teaching includes explaining the following:

- The concept of questioning and question generation.
- The purpose of the strategy—how the strategy aids reading comprehension.
- When to use the strategy.
- The strategy's steps.
- How to use the strategy.

Explicit teaching also incorporates these actions:

- Teacher modeling of the individual steps as well as of the strategy as a whole.
- Teacher think-alouds showing students the thought process that occurs in a reader's head.
- Guided practice with the teacher leading and eventually shifting to the students leading.
- Gradual shift from the teacher being responsible for the students' learning to the students being responsible for their own learning.
- Independent student practice.
- Ongoing assessment.

### A Teacher's Story – Ongoing Assessment

*I think the ongoing assessment piece is very important when teaching the question generation strategy, declares Ms. Alohi. The key is ongoing formative assessment. I constantly assessed my students and their ability to grasp each of the skills needed to complete the question generation strategy. The formative assessment helped me determine if I needed to reteach the skill.*

*If the assessment showed me that students needed more support or couldn't complete the skill on their own, I scaffolded their learning by giving them choices rather than asking them to produce their own work. For example, one of the skills needed is turning a statement into a question. If students couldn't turn a statement into a question, I gave them a choice of questions to choose from. Another necessary skill is being able to find the important idea in text. If students couldn't find the important idea, I gave them a choice of important ideas to choose from.*

*Afterward, I sometimes followed up by providing cloze sentences. Using the same examples I've just given you, I gave students cloze questions or cloze main idea sentences to complete. By doing this, I gradually shifted the learning responsibility to the students.*

*About how long will I need to teach my students the entire strategy?* asks Mr. Keani.

Replies Ms. Alohi, *I can't really say how long it will take you because it depends on where your students are and how quickly they grasp the concepts. Again, assessment is integral to determining if your students need reteaching or have mastered the skill and are ready to move on.*

*Speaking of assessment, I have to share with you one idea that worked brilliantly for me. I used a question log to keep all the student work organized in one location. I also used it to assess and track student progress.*

Ms. Alohi provides Mr. Keani with further information about the question log.



### **Possible Teaching Idea**

- My Question Log – Question logs or reading journals are an effective method for collecting, organizing, and assessing student work. The log or journal can be a composition book or notebook where students complete their work. All of a student's work is then in one place, and this enables student work to be documented over time, plus it's a resource for students. Teachers use the log or journal to assess student learning.

*Thanks for reminding me to continually assess, replies Mr. Keani. I think I will try the question log too! Now that you've started to share some of the skills needed for the question generation strategy, maybe we could talk some more about that?*

*Sure!* says Ms. Alohi. They continue their discussion by talking about some of the prerequisite skills needed to complete the question generation strategy.

## Prerequisite Skills Needed for the Question Generation Strategy

Several prerequisite skills are needed in order to use the question generation strategy. (See Figure 1.) Teachers may consider teaching these as discrete skills prior to or in conjunction with the question generation strategy.

The summary following Figure 1 provides a brief description of each skill. Further detail of each skill is provided after the summary.

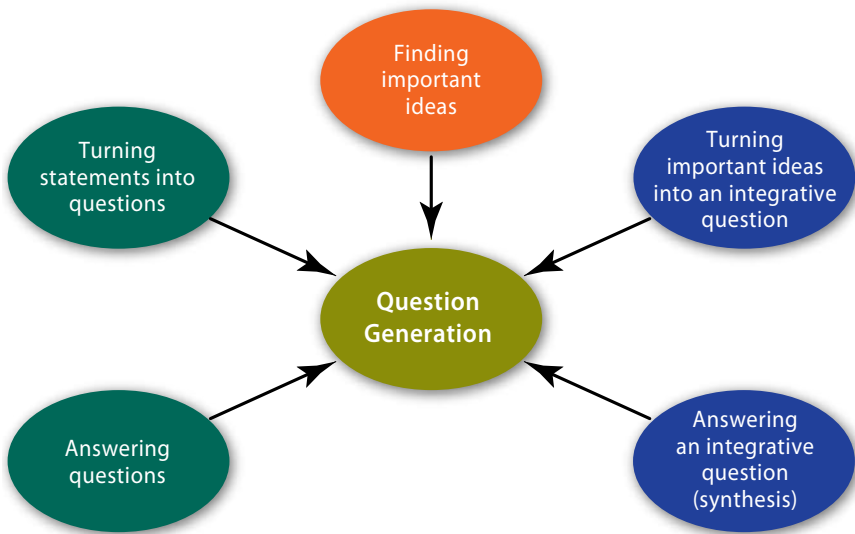


Figure 1

Being able to locate and/or identify important ideas in text (orange oval) is another compulsory skill for question generation. This is a reading skill. For the purpose of this book, the term *important idea* is used rather than *main idea* because text sometimes has more than one main idea. The term *main idea* implies there is only one significant idea in the text whereas *important idea* implies there may be more than one. Important ideas are key ideas or points of the text. Supporting details give more information about the important idea or ideas.

Finally, the language skills needed during the question generation strategy are how to turn an important idea statement into an integrative question and how to answer the integrative question (blue ovals). These skills differ from the language skills in the green ovals because they require that readers be able to synthesize what they read. Readers must have synthesized the information they read in order to frame an integrative question. Readers also need to have synthesized the text in order to answer the integrative question.

## Setting the Stage – Creating a Questioning Environment

**Q**uestion generation is predicated on students asking and answering questions. Creating a questioning classroom environment can set the stage for question generation as well as inquiry in general. Teacher-directed questions or answering the questions at the end of the chapter are a hallmark of a traditional classroom. Creating a questioning environment can bridge the gap between a classroom of mostly teacher-directed questions to an atmosphere where both teachers and students are encouraged to ask questions throughout the day.

Asking their own questions can motivate students to read to find the answers. Also, students are more likely to comprehend the text when searching for the answers to questions that are important and significant to them. Teachers can guide student questioning by asking, *What do you think we are going to find out?* or *Why do you think this is important to your life?* or *What can we do with our new information?* This type of questioning makes reading purposeful and meaningful for students.



### Possible Teaching Ideas\*\*

*\*\*With all Possible Teaching Ideas it is important that teachers explain to students when and why they will use the activity as well as how to do the activity.*

- **I Wonder . . .** – An “I Wonder” bulletin board or space provides students with a venue to ask questions throughout the day. Students post questions that can be examined at a different time or used as a springboard for student or class investigations. An example of an “I Wonder” space is an “I Wonder” chart with student-created questions written on sticky notes. Students may initially answer questions on a sticky note. Complete answers to the questions are shared as students learn the content.



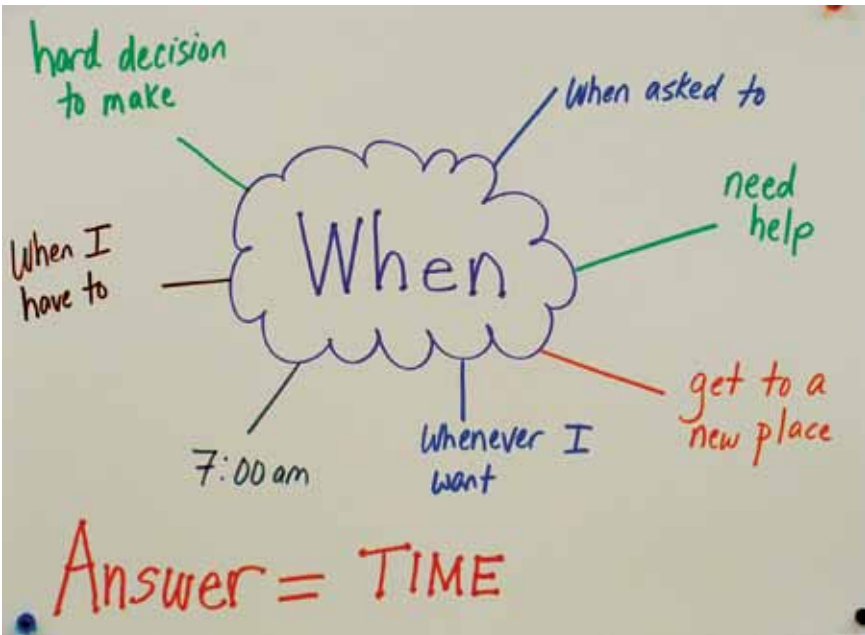
# Prerequisite Skill – Asking and Answering Questions

Students need to know how to ask and answer a question. Rosenshine et al. (1996) found that the use of a “procedural prompt for helping students generate questions consists of first providing students with a list of signal words for starting questions, such as *who*, *what*, *where*, *when*, *why*, and *how*” (p. 186). Teachers can create a Question Starter chart or provide students with a list of question starters. (See Appendix A.) Students can keep their question starter list in their question log or reading journal for quick reference.

Matching question starters to generalized answers helps students answer questions. For example, questions beginning with *where* usually result in a location or place as the answer. The answer to *Where do sharks live?* is *Sharks live in the ocean*. The ocean is a location. If a student responds, *Sharks can live up to 100 years*, his or her answer describes the *length* of a shark’s life. If students know that questions beginning with *where* are usually answered with a location, they can self-monitor the answer.

Starting with a familiar topic can help students recognize how different questions are answered. Here are some general guidelines for teaching question starters.

Question Starter	Generalized Answer
Who	Person or people
What	Object, description, or process
Where	Location
When	Time
Why	Reason or explanation
How	Quantity, process, or description



Knowing how to *answer* questions is as equally important as knowing how to *ask* questions. Questions beginning with *who*, *where*, and *when* tend to be easier for students to answer because the answers are not complex. Simple *what* questions, or questions that are generally answered with an object, are also easier for students to answer. The following chart provides examples.

Question Starter	Question	Simple Answer***	Complete Answer
Who	Who went to the beach?	John and I	John and I went to the beach.
What (a simple <i>what</i> question)	What did you bring to the beach?	Towel, sunscreen, surfboard	I brought a towel, sunscreen and my surfboard to the beach.
Where	Where is the beach?	North shore	It is on the north shore of the island.
When	When did you go to the beach?	10 a.m.	We went to the beach at 10 a.m.

\*\*\*Students sometimes answer with just one or two words. The complete answer models answering questions in complete sentences.



One way to present question starters and answers is to post each question starter and model using it. For example, a teacher could post *who* in a word web and ask, *Who did their homework last night?* The teacher can follow up by modeling more questions (for example, *Who ate pizza for dinner last night?*) and ask students to contribute other questions that begin with *who*. Students' contributions are added to the word web.

Afterward, the teacher can guide students to see that the answers to their *who* questions are usually a person. To stimulate student thinking, the teacher could ask, *What do you notice about all the answers?* Or the teacher could say something like, *Devin did her homework last night* and *Patti ate pizza for dinner last night* and point out that both Devin and Patti are people. If needed, the word web could be posted as a reference for students.

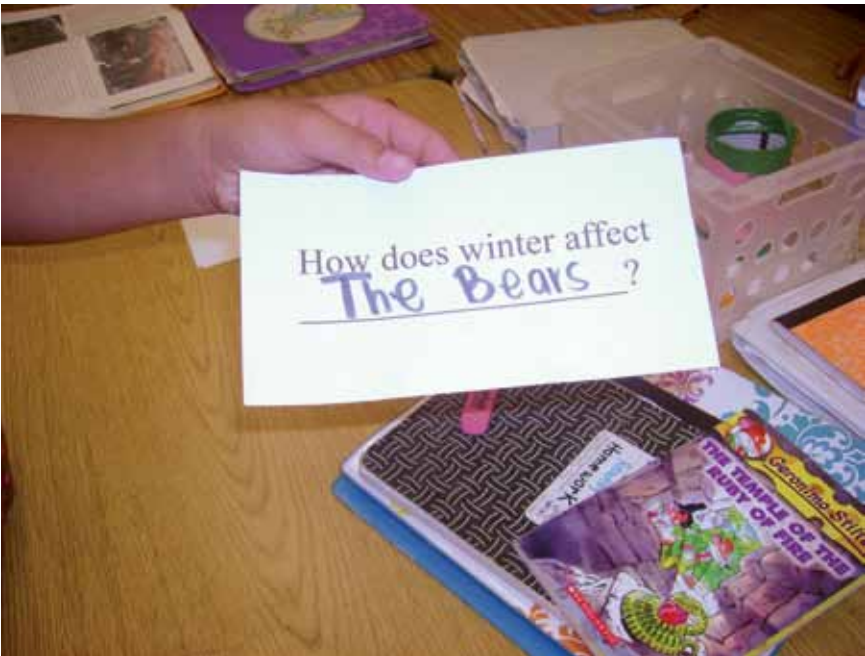
*How*, *why*, and certain complex *what* questions may be particularly challenging for students to answer correctly. Complex *what* questions are generally answered with a process or description. These questions often require more thought and usually cannot be answered with just one or two words; for example: *How are plant and animal cells different?* *Why is a day 24 hours long?* *What causes a tsunami?* *What is photosynthesis?*

It is challenging for students to distinguish between *how* and *why* questions. For example, if students are asked, *Why do sharks swim?* Their response may be, *Sharks swim by moving their bodies side to side*. But this answer is best suited for the question *How do sharks swim?* Modeling that *why* questions can often be answered with *because* may help students understand the difference. Also, using comparative *how* and *why* questions based on students' personal experience—such as asking them both *Why did you eat dinner?* and *How did you eat dinner?*—may help them to see the difference.

It is also essential for students to understand that reading the entire question is critical. Sometimes questions don't follow the rules of the question starters. For example, both *When did you eat dinner?* and *What time did you eat dinner?* have time as an answer. Also, remind students that answering a question by first restating the question is an important test-taking skill.

Question stems are another method of scaffolding. (See Appendix B.) A question stem is similar to a cloze sentence. Students insert a few words, mostly content words, to complete a question stem, for example: *Why is \_\_\_\_\_ important?* *How are \_\_\_\_\_ and \_\_\_\_\_ different?*





### Possible Teaching Idea

- Pictures and Questions – Collect and display interesting pictures that will evoke student questions. Model asking questions about a particular picture. Have students choose a picture and ask them to write at least one question about the picture in their question log or reading journal. Provide question starters and stems as a reference. Use these questions as formative assessment and give feedback to help students create grammatically correct questions. Follow up by modeling answering one of the teacher-created questions. Students practice answering their own questions written in their question log or reading journal. When ready, students may answer questions posed by classmates.

## A Teacher's Story – Creating a Questioning Environment and Asking and Answering Questions

*Can it really be that simple?* ponders Mr. Keani out loud. *I can start to build a questioning environment by just showing pictures?*

Ms. Alohi nods vigorously in agreement. *Sure, it really is that easy,* she answers. *Using pictures is exactly how I started. Students really responded to colorful interesting pictures. They loved looking at the picture of a giant shark, and it generated loads of questions.*

*I had students write the questions in their question log, and we shared them with the class. I used those questions to model answering questions.*

*Be aware, though—teaching students to answer questions requires modeling, modeling, modeling. My students also needed the scaffolding of knowing the general answer to each question starter. I made an anchor chart listing the different answers, such as Question Starter When, Answer is a time and Question Starter Who, Answer is a person.*

*Mind you, these are general guidelines, and they have to be emphasized as such. I informed the students that the answer isn't **always** what is listed on the anchor chart.*

*After orally modeling how to answer a question, I modeled writing the answer. I also posted the questions and answers on the wall. I've actually noticed students using it as a reference!*

*That said, keep in mind that asking and answering questions can be difficult for English learners. I noticed my English learners using incorrect question starters. I scaffolded their learning by using question stems and giving them a choice of only two question starters. Then to help these students answer questions, I gave them two answer options to choose from. They had to match the question with the answer. And finally, I made sure to focus on the easier question starters first.*

*Okay. You've inspired me!* declares Mr. Keani. *I'm going to try using pictures, modeling how to ask questions about the pictures, and modeling answering the questions.*

Three weeks later Mr. Keani and Ms. Alohi meet again.

*So how did it go?* queries Ms. Alohi.

Mr. Keani tells her about his experiences. *It was not as difficult as I thought it would be. Your sharing about your experience of*

*how you implemented different strategies helped immensely! My students are becoming more comfortable with asking questions. We still have work to do with matching the question starter and answer. Sometimes my students start their questions with why instead of how. For example, one student asked, Why is the shark there? and answered, The shark swam there quickly. The correct question should have been How did the shark get there?*

*My students struggled with this also, shares Ms. Alohi. What helped was a mini lesson covering the question starters why and how only. First, I used a simple, relevant example to show the difference. I asked my students to turn and talk to a partner and answer the question Why did you come to school today? Most students answered Because I want to learn. I even heard Because my mom made me! Using this easy question helped my students see that why questions are answered with because or a reason. I then asked How did you get to school today? Students answered bus or My auntie drove me. When I expanded students' answers to complete sentences, such as The bus brought me to school today, they were able to see that how questions are answered by a process.*

*I spent time discussing that the answers to why questions are usually a reason, a cause, or an explanation and answers to how questions can be a process, a description, or an amount. I followed up with another example to further illustrate my point.*

*I think starting with an easy everyday example from my students' lives really helped them see the difference between why and how questions and answers. You may want to start with the same question or something similar. Then you can move on to other why and how questions as further examples.*

*Luckily, you are already working with a shark picture, and science naturally lends itself to questioning. For a why question, you could use something like Why is the bottom of a shark's body a lighter color than its top? and answer Sharks have a lighter color on the bottom of their bodies as camouflage. It protects the shark from predators and hides it from its prey. Then you could elaborate on how the answer is an explanation or reason.*

*For an example of a how question, you could use something like How many years do sharks live? and answer Some sharks live up to 16 years, and others can live up to 100 years. You could then reinforce that answers to how questions can be an amount, in this case 16 to 100 years.*

*You could also use another how example, such as How did the shark swim there? and answer The shark swam there quickly.*

*This shows students that answers to how questions can describe a process—the shark swam quickly.*

*In my mini lesson, students practiced using why and how question starters. I wrote down several partial questions with the answer and then asked students to provide the correct question starter. There were only two choices, why or how.*

*For example, you could use something like this.*

Ms. Alohi writes in her notebook.

Question: \_\_\_\_\_ do sharks smell blood in the water?

Answer: Sharks use their nose to sniff out blood underwater. Water comes into one side of the shark's nose and comes out the other side. When the water is inside the shark's nose, it can smell blood and other things in the water.

Question: \_\_\_\_\_ do sharks have so many teeth?

Answer: Sharks have rows and rows of teeth so that when they lose one, another can quickly take its place.

*Does that help?* inquires Ms. Alohi.

*Yes! Let me try this out with my students. I'll let you know how it goes,* answers Mr. Keani. *Now that I've built a questioning classroom and my students are asking and answering questions, what do you suggest as my next step?*

*That's an interesting question. You have two choices here,* notes Ms. Alohi. *Some teachers teach each of the discrete skills first before teaching the question generation strategy. Others teach the skills while teaching the question generation strategy. Which do you think is the best approach for you and your students?*

*Hmmm, that's a good question,* muses Mr. Keani. *I think my students would benefit most from learning each discrete skill first. They tend to get frustrated and discouraged easily. That being the case, what skills do you think I should teach next?*

*I think you could work on two skills simultaneously because they aren't closely related. I would consider teaching students how to turn a statement into a question and answering it as well as finding important ideas,* suggests Ms. Alohi. *Identifying important ideas is a part of your grade level benchmarks too.*

*Thanks for the advice and direction, Ms. Alohi!* exclaims Mr. Keani. *I will work on those two skills with my students next. Let me look over your question generation materials and notes and try it with my students. Can we meet again in two weeks to discuss my progress?*

*Yes, of course. Good luck and let me know if there is anything I can do in the meantime!* offers Ms. Alohi.

## Prerequisite Skill – Turning a Statement into a Question and Answering the Question

**T**urning a statement into a question may be challenging for all students, but especially for English learners. English is a complex language, and as a result, explicit instruction of interrogative language is needed. (See Appendix C for further explanation.)

The primary purpose of explicitly teaching this skill is to help students learn how to formulate questions. Having students turn a statement into a question provides the appropriate scaffold because the answer is in the original statement. In other words, it begins not only the process of turning a statement into a question but also the process of searching for the answer in the statement. This lays the foundation for implementing the question generation strategy, which students will use to turn important ideas into questions and search the text to answer their questions.

Using explicit instruction, the teacher shows students the trial and error process of finding a correct question starter and how to revise words and word order. For example, when turning the statement *Tiger sharks live in the ocean* into a question, there are a couple of possibilities.

- *Where do tiger sharks live? Tiger sharks live in the ocean.*
- *What lives in the ocean? Tiger sharks live in the ocean.*

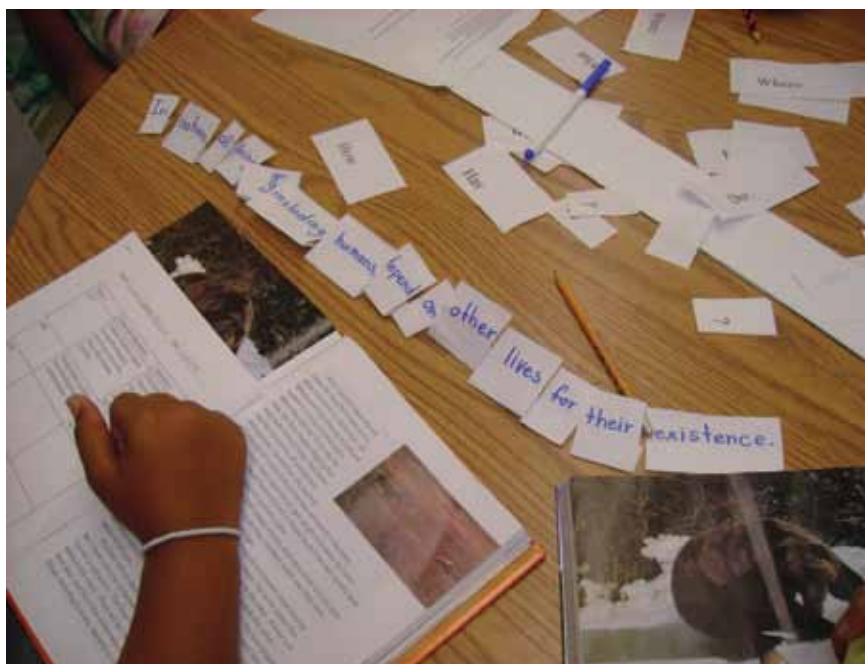
On the one hand, both of these illustrate how to turn statements into questions that can be answered from the original sentence. On the other hand, there are other questions that can be generated, such as *Why do tiger sharks live in the ocean?* The teacher explains to students that *why* is not an appropriate question starter because the answer cannot be found in the sentence. Keep in mind that the purpose of this activity is to assist students that need language help to ask and answer questions. The longer-term goal is to have students ask and answer integrative questions, which require more information from the text in order to be answered.

Note that, like the asking and answering question sequence, turning statements into questions and answering them follows a progression. Turning a statement into a question and answering it is an easier skill and is taught first. Then students advance to the next questioning skill needed for the question generation strategy—turning the important idea into an integrative question and answering it.



## Possible Teaching Ideas

- **Mixing It Up** – Write a statement on multiple sentence strips and a question mark on index cards and have blank index cards available. Students cut apart each word on the sentence strip and then rearrange the words to form a question. Students use the blank index card to write any additional words to help create the question. Circulate around the room and provide feedback to students as needed. When students have formed a question, they may write it in their question log or reading journal. And finally, students share their sentences, questions, and answers with the class.
- **Mixing It Up Scaffold** – Give students a limited choice of question starters (for example, two instead of six) to form the question.





## A Teacher's Story – Turning a Statement Into a Question and Answering the Question

Mr. Keani and Ms. Alohi meet again.

*How is it going?* inquires Ms. Alohi.

*First, let me thank you for the why and how mini lesson. It really helped my students learn more about using the question starters and answering the questions,* replies Mr. Keani.

*How are you feeling about teaching students how to turn a statement into a question?* inquires Ms. Alohi.

*You wouldn't believe it unless you saw it yourself,* chuckles Mr. Keani. *Guess what gave my students the most difficulty? Turning a statement into a question and answering it or finding important ideas?*

*Let's see . . . I'm guessing your students had the most difficulty with finding important ideas,* replies Ms. Alohi.

*Nope!* retorts Mr. Keani. *They had a really hard time with turning a statement into a question and answering the question. I also thought that was going to be the easier of the two skills, especially since I already spent so much time teaching asking and answering questions. I mean, we just finished learning this, so I didn't think students would need explicit instruction. We quickly reviewed the six question starters, and I showed students how to turn a statement into a question as well as answer it.*

*I handed out a sentence and asked students to turn it into a question. I used the sentence Sharks are predators and eat fish and other mammals. I thought this sentence lent itself to several easy questions, like What are sharks? and What do sharks eat? Most of my students were able to generate questions, but several asked questions that couldn't be answered by the sentence. One student's question was Why do sharks eat mammals? and another's was How do sharks eat other fish? I think it's great that they're becoming well-versed in asking questions, but I think it's important for them to be able to ask questions that can be answered.*

*I realized my students needed more modeling and guided practice with using the information in the sentence to turn it into a question. It is almost like the chicken and egg question. What comes first?*

Ms. Alohi interrupts, *I know exactly what you mean. My students had the same issue! I'm curious to know how you resolved this.*



*Well, I had to explicitly teach how the question is dependent on the statement, explains Mr. Keani. In other words, I had to teach students to pose a question and find the answer in the sentence. If they couldn't find the answer, then they needed to discard the question.*

*As a follow-up, I took the activity from your notes and constructed a sentence relevant to my students. I came up with \_\_\_\_\_ played basketball at the park every day to improve his/her skills. Because some of my students needed more support, as I saw from my original assignment, I gave them question stems to turn the statement into a question. For example, I gave students What did \_\_\_\_\_ play? and Why did \_\_\_\_\_? The other students received a list of question starters only.*

*As a whole class, we reviewed the questions they created, even the ones that couldn't be answered by the sentence. I didn't want to discard any questions until we tried to answer them.*

*Then we worked through finding the answer to the questions. I purposely included the question How did \_\_\_\_\_? for students to learn the question has to be answered from the sentence.*

*This helped them learn to monitor and self-check their questions. Afterward I gave students a similar example with only question starters. Students were able to turn the statement into a question as well as answer it. And finally, I provided students with a different statement, and most were able to compose questions and answer them.*

*Mind you, not everyone in the class can do this on their own, but more practice will benefit all of them. It was a much longer process than I thought it was going to be!*

*First, let me say "Good job!" applauds Ms. Alohi. Teaching turning a statement into a question can be difficult. I have to admit that I haven't tried that particular activity before. I think I'll try it with my students next year.*

*I realized my students needed more modeling and guided practice with Funny, notes Mr. Keani. Now that I'm thinking about it, the turning a statement into a question taught me a valuable lesson. I shouldn't ever assume that students know or have mastered a concept just because I covered it yesterday. Or even earlier in the day!*

*Yes, that's a lesson I find myself learning over and over again, admits Ms. Alohi.*

## Prerequisite Skill – Finding Important Ideas

Finding the important ideas in text is essential to question generation and other reading comprehension skills, such as summarizing. Students often struggle with finding important ideas for a myriad of reasons. For example, students may have difficulty separating important ideas from details. And different readers may identify dissimilar important ideas.

Also, important ideas can be determined at the paragraph, section, chapter, or text level. There can be more than one important idea at each level. The important idea may be explicitly stated in a sentence, or it may be implied by the author, in which case it needs to be inferred by the reader.

As a result, teaching students to find important ideas requires repeated explicit instruction and repeated opportunities to practice searching for important ideas. This shows students that finding important ideas is a trial and error process whereby readers discern important ideas from supporting details, and it gives students plenty of opportunities to work through the process themselves.

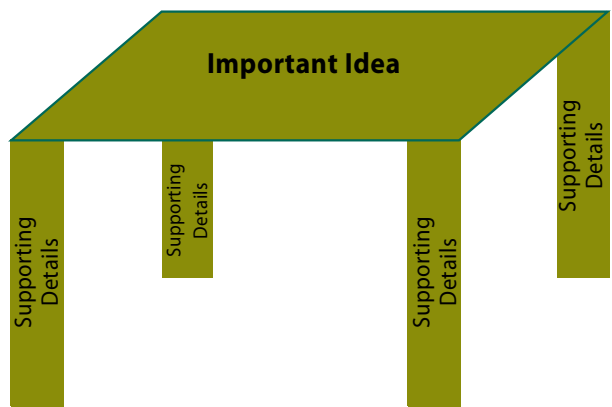
Teachers can model finding the important idea in a given text by using the think-aloud process. Guiding questions both model and scaffold the process of understanding the difference between an important idea and a supporting detail. For example, *What is the text mostly about?* and *Why did the author write the text?* are guiding questions to find the important idea. These questions direct students to look for the author's key points.

By contrast, *What details support this important idea?* and *What details tell me more about the important idea?* aid students in finding supporting details. These questions direct students' thinking to the information that explains or supports the important idea.

Students may find it hard to distinguish between important ideas and supporting details. Use a non-example (that is, use a detail as an important idea) to show students that incorrect important ideas do not have supporting details. To model this, a teacher can ask, *Are there any details that support this important idea?* This guides students to see that although there may be some information relating to the incorrect important idea, there will not be much. Therefore, this cannot be the important idea.

Another method is to use a visual representation. For example, a table visually illustrates how supporting details (the table legs) hold up the important idea (the tabletop). Teachers can explain how supporting details either give more information about or further explain the

important idea, thus holding up the important idea. It can also help students separate out details that do not support the important idea. To guide student thinking, teachers can ask, *Does this tell me more about the important idea?*



An important idea web can also be used. In the center bubble is the important idea with supporting details in the surrounding bubbles.



Posting graphic organizers provides students with a visual reminder of completed work and supports them going forward. They can use the posted graphic organizer as a model when they become confused.



## Possible Teaching Ideas

The following are activities for explicitly teaching important ideas. These activities may be used individually or grouped together to form a teaching sequence.

- **A Picture Is Worth One Important Idea** – Give students pictures with a strong single focus. Have students determine the important idea and explain it orally or in writing. For example, show a picture of a political official being sworn in. The main focus is the swearing in of the official. Lead students to see that the number of people attending the ceremony or the person officiating the ceremony is not the important focus of the picture.
- **Search for Important Ideas** – Begin with finding an important idea that is explicitly stated and easily located in a paragraph (that is, the important idea is stated in a single sentence in the paragraph). Model finding the important idea by using the process of elimination. Read each sentence and think aloud about how the statement is either an important idea or provides supporting details. Ask *Is this what the text is mostly about?* and/or *Does this tell me more about the author's important or key points?* Point out the location of the important idea statement (for example, the first or last sentence). Have students practice finding important ideas located in the first or last sentence of other paragraphs. Gradually introduce paragraphs whose explicitly stated important ideas are found somewhere other than the first or last sentence in the paragraph.
- **Create Important Ideas** – Provide an important idea web with only supporting details listed. The students then think about and write the important idea in the center of the web.
- **Find Important Ideas** – Assign each student a different paragraph from a content area textbook (for example, science). Have students identify the important idea and supporting details. On a blank sheet of paper, each student creates a web. The center of the web is for the important idea, but they leave this part blank. They write the supporting details on the web spokes. Next, they exchange papers and write in the important idea.
- **Connect an Important Idea Web to Writing** – Create and distribute an important idea web for an existing paragraph. Students write a paragraph that fits the web and compare their written work to the original paragraph.
- **Provide Multiple Choice Options** – Give students a choice of possible important idea sentences for the text. Students choose the best option as the important idea.

- Use Fold-Overs – Assign each student a different paragraph from a content area textbook. Have students write down the important idea at the top of the paper. They fold over the paper so the important idea is hidden. Then, students skip a few lines on the paper and write the supporting details. Students exchange their papers. Based on the supporting details, students write a new important idea on top of the folded section. And finally, students compare their important idea to the original one.

## A Teacher's Story – Finding the Important Idea

*And, how did finding the important idea go?* continues Ms. Alohi.

*Well, because I didn't want to make the same mistake again or assume that students knew or were familiar with something that they weren't, I started at square one. I went totally back to basics with teaching important ideas. And I was extra careful to model, scaffold, and provide plenty of guided practice before letting students work independently.*

*So I began teaching finding the important idea using the picture lesson. I think that really helped students understand the difference between an important idea and supporting details. I had a picture of the president being sworn in, and the students easily identified the event as the important idea. The supporting details were things like the number of people attending, who attended, and so on.*

*Then I moved on to using short paragraphs with the important idea in the first sentence. I had students highlight the important idea. There is something about having the sentence highlighted that worked for my students. Perhaps because yellow makes the sentence seem more important.*

*I saw how successful the highlighting was and decided to use a graphic organizer. We created one together as a class and students followed along by making their own at the same time. I'm learning that my students are pretty visual. I really liked the idea of the tabletop/table legs graphic organizer because students could draw it themselves. Plus, it helped my English learners visually understand the relationship between the important idea and supporting details. And to keep with the color scheme, students highlighted the tabletop to reflect an important idea.*

*Replies Ms. Alohi, Now that you mention it, I see that students don't even need to draw a table. They can write the sentences to form the table!*

*Yes. I also put our class-created graphic organizer on the wall. We continued practicing finding the important idea in the first sentence and supporting details. I had the students orally explain to me and each other how the details tell more about or explain the important idea. Connecting reading and speaking really helped the students process and work through how the important idea is supported with details.*

*I purposely didn't point out the location of the important idea, but my students quickly noticed the pattern. To keep building the skill, I threw in paragraphs with important ideas in the last sentence too.*

*This tripped up a few students, but most were able to identify it! I gave them time to discuss the important idea, and heard some good discussion. For example, I heard one student say I don't think the first sentence is the important idea because the first sentence tells about producers. The rest of the paragraph tells about consumers too. The last sentence tells us that living things get their food in many different ways. I think the last sentence is the important idea because it tells about all living things, including producers and consumers.*

*Finally, I gave them a paragraph with the important idea in the middle. I explicitly stated that the author is going to try to trick them as readers. I challenged them to find the important idea. It was almost like a detective game for the students! And guess what? They did it! Well, at least most of the students did it. It took quite a bit of student discussion and a little guidance from me, but they did it!*

*In keeping with the ongoing formative assessment piece, I noticed there were several students struggling with this activity. They chose a detail as the important idea. I made sure to pull these students into a small group. We worked on how the detail they chose didn't have any other information to support it. Therefore, it must not be the important idea. We practiced with a few more paragraphs, and students were able to identify the important idea.*

*More practice will certainly benefit all the students, and I plan to work on implied important ideas next. However, I feel like the students have a solid enough understanding for me to move on to the next skill, turning an important idea statement into an integrative question and answering the question, declares Mr. Keani.*

Paragraph	Important Idea	Supporting Details
5	Living things get water from different places.	<p>1. Plants get water from rain and soil</p> <p>2. Many animals drink water from streams and puddles.</p> <p>3. but some drink water from the desert.</p>
6	All animals must take in oxygen.	<p>1. Animals that live on land get oxygen from the air.</p> <p>2. Other animals that live in water get oxygen from the water.</p>

*Well, before we do that, I want to say congratulations! Finding the important idea is a difficult skill to teach. I use the web graphic instead of the tabletop. I've also seen other teachers use a table with headings for the important idea and details.*

*Regardless of the graphic organizer, to further support student learning you may want to do the activity where students read their science or social studies text and record the supporting details only,* continues Ms. Alohi. *Students switch graphic organizers and write the important idea sentence for the new graphic organizer. It is the reverse of what you've been doing and could support students that learn in that manner. I know some of my students really benefited from this activity.*

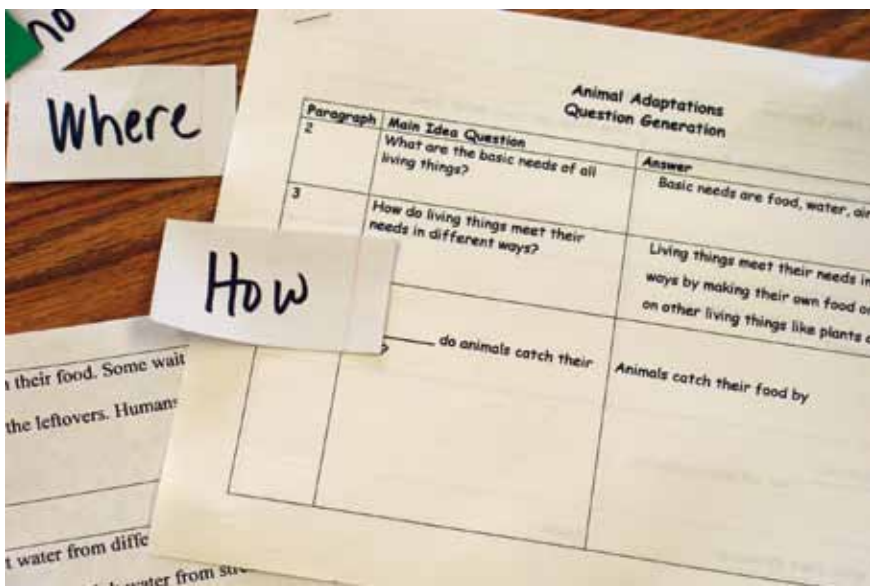
*Thanks, says Mr. Keani. It has been hard work—but certainly rewarding when I see student growth! And now I feel confident enough and really ready to tackle the integrative question and answer.*



# Prerequisite Skill – Turning Important Idea Statements into Integrative Questions

Turning an important idea statement into an integrative question is more complex than turning a statement into a question, but it involves the same skills. An integrative question is a question that synthesizes the important ideas and details from different parts of the text (NICHD, 2000). An integrative question cannot be answered from just one or two sentences in the text. The reader must synthesize or gather information from throughout the text in order to answer the question. Note that for younger readers who cannot necessarily fully synthesize the text, an integrative question is one that requires students to identify and put together the important information from the text to answer it.

Posing an integrative question requires students to have a firm understanding of the important idea and supporting details of the text. Students need to understand that an integrative question must be broad enough so that the answer encompasses different parts of the text. For example, question starters such as *what*, *why*, or *how* lend themselves to answers that extend beyond a few words.





## Possible Teaching Ideas

- **Nonexample** – Provide students with a nonexample (that is, a question that can be answered by a few details) to illustrate the difference between an integrative and a nonintegrative question.
- **Question Support** – Use question stems and/or give students a list of integrative question choices.
- **Process of Elimination** – To demonstrate the hard work it takes to create an integrative question, think aloud to show the process of elimination you go through to choose the question starter. Model using all question starters. (See “A Teacher’s Story – Putting It All Together.”)
- **More Than One or Two Sentences** – Point out that in most cases integrative questions cannot be answered by just one or two sentences. Doing so explicitly and repeatedly reminds students of the integrative question requirements.
- **Clipping and Counting** – Have students read the text, find the important idea and supporting details. Students list the information on chart paper. Extend learning from turning a statement into a question by providing students with sentence strips that the important idea is written on. A list of the question starters is also helpful. Students cut apart the important idea sentence strip and manipulate the words and question starters to create questions. On a separate piece of paper, students record each question in writing. Students then read each detail sentence, decide if this detail sentence can be used to answer the question and tally the number of detail sentences used to answer the question. These tally marks are recorded next to each question. Students highlight the question with the most tally marks—this is the integrative question.
- **What, How, Why** – Think about using *what*, *how*, or *why* as question starters. These question starters can elicit more extensive answers than question starters like *where*, *when*, and *who*.
- **Two-Column Anchor Chart** – Create a two-column anchor chart. Using teacher-created as well as student-created questions, list on one side integrative, or “juicy,” questions. On the other side list “dry” questions, those that can be answered using only a couple of details (Harvey & Goudvis, 2000).

# Prerequisite Skill – Answering an Integrative Question

The final step of the question generation strategy is answering an integrative question. Students must be able to summarize and synthesize the text to fully answer the question. Again, for younger readers, answering an integrative question requires them to put together the text’s important information versus synthesizing the information. The previous question generation step (the process of turning an important idea statement into an integrative question) requires students to have a firm grasp of the important idea and details. As a result, students have a natural scaffold to answering an integrative question because they have already examined or analyzed the details of the text needed to answer the integrative question.

Teachers can start by modeling orally and in writing as well as thinking aloud about how to synthesize and summarize the text. Creating an anchor chart while modeling further supports student learning. Scaffold student learning by using a short paragraph with minimal details and providing students with a graphic organizer. Your graphic organizer can be a four-column chart outlining the text’s important idea, supporting details, integrative question, and answer. Prompts in the column headers are a further scaffold. The Answer column, for example, could include the prompt “Use the details to write a complete sentence or sentences to answer the question.” Alternatively, you could use a three-column graphic organizer with columns for the important idea, the integrative question, and the answer.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

QUESTION GENERATION

Paragraph	State the important idea. (What is the text mostly about?)	Write a question about the important idea.	Answer using the supporting details. Write a complete sentence.
1	The houses were built to match the New England landscape.	How were the houses built to match the landscape?	Houses were small and sturdy and had fire places. This kept them safe from attacks. Warm during winter.
2	The Men who owned land and wore hats of horse/hold played an important role.	How did men play an important role?	Men were leaders of the church and government in charge of the people for important jobs.
3			
4			



## Possible Teaching Ideas

- **At the Same Time** – Teach and scaffold turning an important idea into an integrative question and answering at the same time. For example, students can turn the important ideas into questions, and you can guide students to form an integrative question. Students will naturally work toward answering the question while turning the important idea statement into a question.
- **Two Heads Are Better Than One** – Provide a peer support system by having students work in groups. Assign each student a role, such as reader, detailer (finds the important details), and important idea finder. All group members must agree with each finding before moving on to the next step. The group works together to turn the important idea into an integrative question as well as answering it.

### Recursive Process of Creating and Answering Integrative Questions

Turning the important idea into an integrative question and answering the question is a recursive process and requires students to closely analyze and engage with the text.

While posing and answering an integrative question, students sometimes realize they have asked a question that cannot be answered from the details. For example, students initially create an integrative question that captures some of the supporting details but utilizes an incorrect question starter, such as using *why* instead of *how*.

An example is the question *How are sharks hunted?* with the answer being *Sharks are hunted for their fins and meat*. The correct question starter is *why*, the question being *Why are sharks hunted?* Teachers can point out that the answer explains a reason and the question starter, *how*, asks for a process. While attempting to answer the question, students become aware they are answering a different question. The integrative question can be changed to match the answer.

Conversely, students sometimes pose questions that although thought provoking and about the topic, are unanswerable using supporting details from the text. Teachers can ask students to refer back to the details of the text to answer the integrative questions. Teachers can give reminders, such as *Remember, the details are used to answer the question and if the question cannot be answered from the details, the question must be changed*. Finally, it is important to promote a questioning environment and honor students' inquiries. Teachers can create an "I Wonder" bulletin board or space in the classroom where students post their questions that can't be answered from the text. These questions may be researched and answered at a later time.

## A Teacher's Story – Turning an Important Idea Into an Integrative Question and Answering the Question

Mr. Keani and Ms. Alohi discuss integrative questions and answers.

Says Mr. Keani, *I remember that an integrative question is one that requires students to synthesize the text and can't be answered by one or two details.*

*That's right, agrees Ms. Alohi. My students struggled with this a little because it requires looking at the details to determine if you're really asking an integrative question or not. You may want to teach these two skills together, just like asking and answering questions. It helped to point out that students need to look at the important idea **and** the details to create an integrative question. Regardless of the question, students are analyzing and interacting with the text during the process of creating a question.*

*I've observed really rich student discussion during the course of trying to create an integrative question. For instance, while trying to create an integrative question, I've observed students discussing and tallying the number of details or sentences needed to answer the question. They've actually debated each sentence to see if it can be used to answer the question! This helped them figure out if their question was integrative or nonintegrative. This was a great example of students really interacting with the text.*

*I want to point out one technique mentioned in the materials from the professional development. This technique categorizes questions as juicy or dry (Harvey & Goudvis, 2000).*

Asks Mr. Keani, *What is a juicy question and what is a dry question?*

*Juicy questions are integrative questions and dry questions are nonintegrative. In other words, juicy questions are those whose answers need lots of details. The answers to dry questions don't need many details, said Ms. Alohi. For example, if you had a paragraph about sharks, their prey, and how they hunt and eat their prey, a juicy question would be How do sharks eat their prey? A dry question might be What do sharks eat?*

*My students loved the idea of juicy and dry questions. We started coming up with other names for our juicy questions, like foods the students love to eat. We liked mango for our juicy questions because the juice of the mango drips down your arms when you eat a mango. At least this happens when you eat the orange-colored mangoes that grow around here! We chose a banana for our dry questions because bananas don't have any juice, she continued.*



*The mango also represents the work readers need to do in order to generate an integrative question. Readers need to examine the important idea and supporting details to formulate an integrative question. In order to eat a mango, like the ones that grow in our students' backyards, you first need to slice off a piece and then score it before you can enjoy it. You only need to peel a banana to eat it. This represents how easy it is for readers to find the answer to nonintegrative questions.*

*I made a list of our mango and banana questions with pictures of the fruit above the headings “Juicy or Integrative Questions” and “Dry or Nonintegrative Questions.” The list is posted on the wall, and we add to it as we work on the question generation strategy. I see students using the chart when they can’t come up with their own integrative questions. It’s almost as if the posted questions are their question stems.*

*Maybe it would be better to show you an example.*

Ms. Alohi shows Mr. Keani her “Juicy or Dry” chart and a sample paragraph.

**Juicy or Dry?**

 JUICY or Integrative Questions	 DRY or Nonintegrative Questions
Why are scientists worried about the Volcano of Fire?	When did the Volcano of Fire last erupt?
	Where is the Volcano of Fire?

## Sample Paragraph

"The Volcano of Fire is Mexico's most active volcano. It has erupted many times over the years. What scientists are most worried about is the next big eruption. The volcano has had huge eruptions about every hundred years. The last one took place in 1913." (*Eruption!*, 2005)

*Wow! Thanks so much for sharing and for the advice, answers Mr. Keani. I really like the mango and banana idea. I appreciate your help and guidance. I would like to try teaching these two skills on my own. And then I'd like to get back together again. I find that this type of collaboration works best for me. As a second-year teacher, I feel uneasy when other adults are in my classroom. I do realize that I would probably benefit from your observing me and giving me feedback, but I'm thinking it is best for me to finish building the skills on my own and then I'd like to have you come observe me putting all the pieces together. Does that work for you?*

*Of course! I'm glad you are willing to try the strategy and know that it takes a lot of work. Keep at it, encourages Ms. Alohi. I'm here to support you however you need it.*

*Thanks, responds Mr. Keani. Let's meet back in three weeks and see how it goes.*

Ms. Alohi and Mr. Keani reconvene three weeks later.

*Phew, grins Mr. Keani. That was hard! There was quite a bit of working forward and backward to create an integrative question and answering it.*

*What do you mean by forward and backward?* inquires Ms. Alohi.

*Responds Mr. Keani, We worked forward by simply changing the important idea into a question and then worked backward by checking to see if the details could answer the question.*

*Can you tell me more about that?* asks Ms. Alohi.

*Sure! By working forward we followed the question generation strategy in sequence. We first read the text, found the important idea, and then changed the important idea statement into a question. What worked for me was to first list the important idea and details for the students. Let me show you what I did. I kept with the shark theme to be consistent with my students.*



Mr. Keani shows Ms. Alohi his chart of important ideas and supporting details from his lesson.

Important Idea	Supporting Details
Great white sharks are powerful sea animals.	Can swim up to 43 miles per hour
	Migrate or travel around the ocean hundreds or thousands of miles
	Average length: 14–18 feet
	Average weight: 1,500–4,000 lbs
	No natural predator
	Largest predatory shark

*I then put the important idea statement on a sentence strip and physically placed a question starter at the beginning of the sentence. I used the question starters why, how, and what because these seem to provoke the most thought and discussion.*

*I orally generated questions and built a “possible question” list. A possible question list records all of our possible integrative questions. Once we finish our possible question list, we look at the details to determine the best question. Then I filled out a graphic organizer to help students see how the important idea, supporting details, question, and answer fit together.*

Mr. Keani shares the “possible question” list.

Possible Questions
Why is the great white shark a powerful sea animal?
How is the great white shark a powerful animal?
What is a great white shark?
What is a powerful sea animal?
Where are great white sharks found?

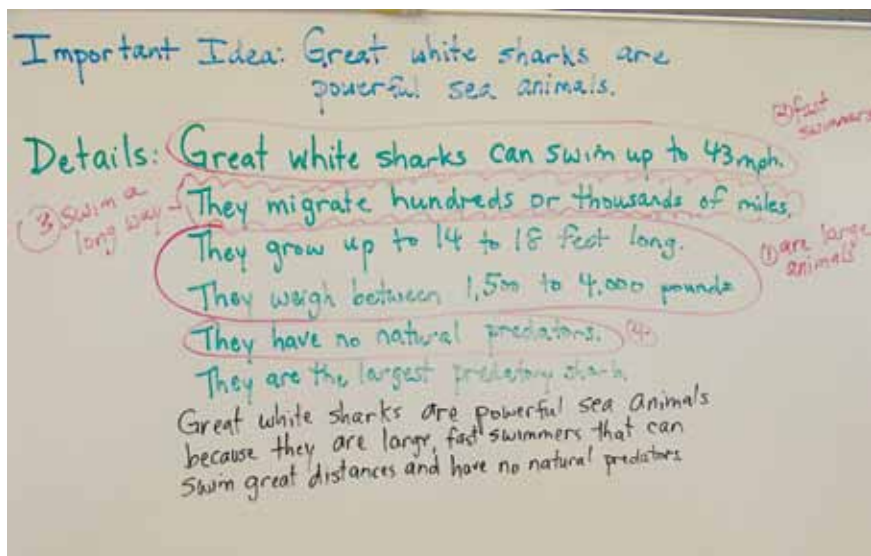
Answer: Great white sharks are powerful sea animals because they are large, fast swimmers that can swim great distances and have no natural predators.

*I continuously modeled and scaffolded throughout the process as needed. I used question stems to support students. At first, I had students fill in one or two words of the question stem. Then, I moved more toward the question starter and a few other words. Just*



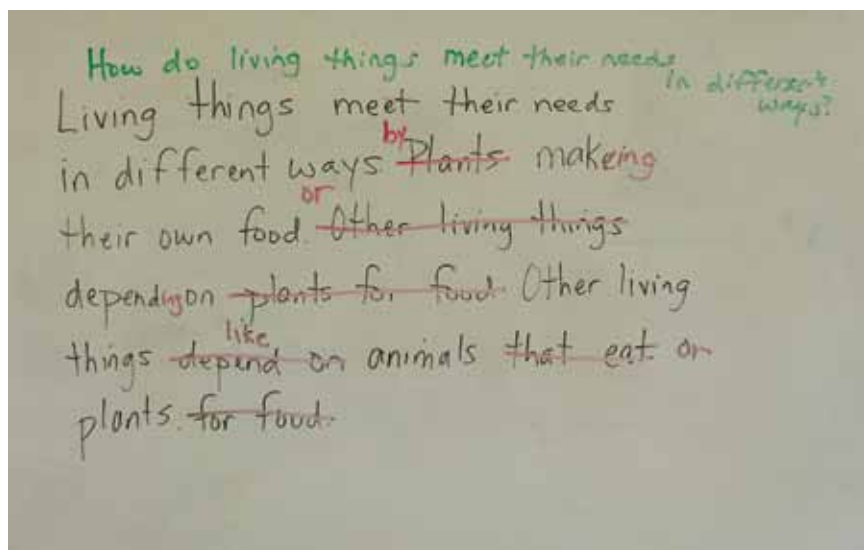
yesterday I started giving certain groups of students the question starters only.

The hardest part of this lesson was answering the question. We're still working on summarizing the details. I showed them how to consolidate the details by putting the sentences together and then crossing out words to make one or two sentences. They're getting better at this, but it is a work in progress.



Answering an integrative question is something we are still working on in my class too, Ms. Alohi chimes in. I think your idea of squishing all the supporting details into one long sentence is an interesting way to model summarizing. You can think aloud your thought process while crossing out and adding words to your answer. I would really like to try this in my class! Do you have a sample you could show me?

Mr. Keani shows Ms. Alohi two samples.



*Oh, I see now how you worked this. Thanks for sharing,* says Ms. Alohi.

*You're welcome. Suddenly, Mr. Keani has an idea. You know, I think we can tie this into our mango and banana theme. What if we liken summarizing to making a smoothie? We take bits and pieces of each of the details to blend our answer. We answer our juicy questions with a smoothie. I'm going to work on this in my class and let you know how it goes.*

*That sounds great!* says Ms. Alohi. *You know, this is one reason why collaborating is such a great idea. Two heads are always better than one! And sometimes the act of talking through a lesson brings new revelations.*

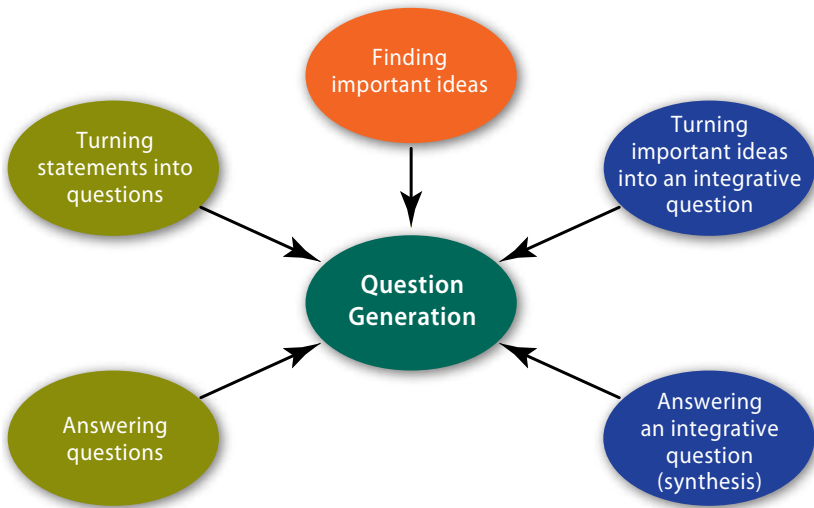
Mr. Keani looks sheepishly at Ms. Alohi. *Yes, I know it is time for me to get over being uncomfortable with having another adult observing me in my classroom. I'd like to continue working with my students and start putting the entire question generation strategy together. Do you have any suggestions that might help me?*

*I think the big takeaway for me from the professional development was that students don't need to master all the skills to use the strategy. There are many ways to scaffold the strategy so students can complete all four steps,* shared Ms. Alohi. *And these scaffolds can be used in combination. For instance, my students need extra support with finding the important idea and benefit from using a graphic organizer. So I provide them with a graphic organizer that has the important idea already filled in. The materials I gave you provide suggestions to help your students complete the strategy. Do you think you have enough information to try the strategy from start to finish?*

*Yes, I think reading the professional development materials and our meetings have provided enough information and guidance for me to try the entire strategy,* responds Mr. Keani. *Do you think you might be able to observe my lesson?*

*Sure!* answers Ms. Alohi. *Let me talk to the principal to get coverage, and we'll schedule a day and time.*

## Question Generation Process – Putting It All Together



As review, there are four steps to the question generation strategy:

1. Read the text.
2. Find the important idea.
3. Turn the important idea into an integrative question.
4. Answer the question.

Implementing the question generation strategy can appear daunting and overwhelming because it requires many skills to complete the entire process. However, there are several avenues to effectively implement the complete strategy. Probably the most important is to use a text familiar to the students (that is, text that they have previously read).

Students do not need to master all skills to use the strategy. If students cannot complete one or more of the steps, teachers can provide or scaffold the step. This allows students to learn to question while reading as well as teaches them the value and importance of the reading strategy. It is the strategy, not the discrete skills, that may improve reading comprehension.

If students cannot find the important idea, teachers can do the following:

- Have students choose the important idea from a list of choices.
- Furnish students with the important idea.

If students cannot turn the important idea into an integrative question, teachers can provide the following:

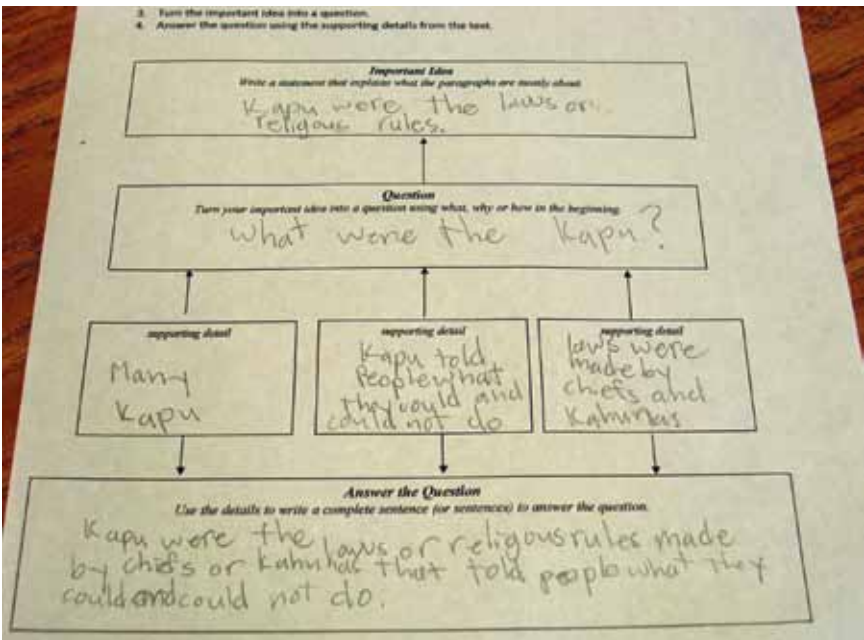
- Question stems.
- The question starter.
- The integrative question.

If students cannot synthesize or summarize the text, teachers can furnish the following:

- Text details in note form.
- Cloze answer.

To scaffold the entire strategy, teachers can do the following:

- Select one paragraph for students to work on.
- Create small heterogeneous groups where some students act as peer tutors. (Be sure to include at least one student that can successfully use the strategy.)
- Give students a visual reminder of the question generation steps (for example, anchor chart, steps listed at the top of the graphic organizer, small cutout card).
- Provide a graphic organizer with prompts for each step.



It is important to note that there needs to be a gradual shift of responsibility from teacher to student in order for the strategy to become automatic and for students to master the entire process. When this occurs, teachers may do the following to extend the question generation strategy:

- Use the strategy to jigsaw the text for the entire class.
- Have students use the strategy to create their own study guides (PREL, 2008b).
- Use student-created questions as part of their content assessment.

## A Teacher's Story – Putting It All Together

Ms. Alohi successfully secures teacher coverage for her classroom, and she observes Mr. Keani teaching a question generation lesson. They met beforehand and discussed the focus of the observation. They agreed Ms. Alohi would be observing Mr. Keani's question generation implementation only. She would not be observing or commenting on other areas, such as classroom management. Ms. Alohi is a silent observer and sits in the back of the classroom.

It has been months since Mr. Keani's solar system lesson. His end-of-unit assessment showed him that students didn't learn the content. He decides to reteach the content. Mr. Keani knows he should use a familiar text with the question generation strategy and decides to use the Pluto text again.

Mr. Keani begins by going over the lesson's "I Can" statements and benchmarks.

*Class, today we are going to do more work with the question generation strategy. First, let's talk about our reading strategies. I would like you to turn and talk to your partner about these questions: What is a reading strategy? and Why is a reading strategy important?*

Students turn and talk with their partner. Mr. Keani circulates the room and listens to the students talking. He claps his hands, signaling students to finish up their conversations. Students end their discussion, and Mr. Keani begins calling on them.

*Evan, what did your partner say?*

*She said a strategy is a plan and a reading strategy is a plan for our reading. She said it is important because it helps us better remember what the author is telling us.*

*Oh, I see your partner spied our "What Good Readers Do" anchor chart. Mr. Keani points to the anchor chart. Yes, these strategies help us better understand and remember what we've read.*

*What are some other reading strategies we have in our toolbox? Isabel?*

*Look at the text features.*

*Yes, good, encourages Mr. Keani. We look at the text features before and during reading. Turn and talk to your partner and tell them what text features you see and used when you read the text yesterday.*

Again, Mr. Keani walks around the classroom listening in on student conversation. He calls the students back to whole group.

*Noah?*

*I used the diagram of the solar system with all the planets labeled,* responds Noah.

*Great job, Noah. Class, what information did you learn from the diagram? How did the diagram help you better understand the text? Everyone, please turn and talk to your partner and tell them how the diagram helped you while reading the text.*

Pairs of students share their thoughts. Mr. Keani halts student conversation and returns the class to whole group.

*Melia, what did your partner share?*

*Jake said the diagram showed him where Pluto was in the solar system. He saw that Pluto was very far away from the sun,* says Melia.

*Great work class! Now, remember we looked at the diagram **before** we read, and what did it tell us **before** we read?*

The class responds, *That we were learning about the solar system!*

*Yes, we used the diagram to predict what we were going to be learning. We're learning about the solar system. And if you look at our chart, predicting is another reading strategy that good readers use. Predicting gets our minds ready to learn more about the subject or topic,* says Mr. Keani.

*Boys and girls, you are rock star readers! praises Mr. Keani. Are you ready for the next challenge? Let's see if we can add a new strategy to our reading toolbox! We are going to work on the question generation strategy. Remember, questions are like hooks in our brains where we can hang our new information. They help us remember what we've learned.*

*Class, what are the four steps of the question generation strategy? Do you remember the movement we put to each step? Why don't you stand up and practice?*

Students stand. Mr. Keani divides the class into four groups. Students are standing in their groups when Mr. Keani asks, *Group 1, what is the first step?*

Students cup their hands together and shout, *Read the text!*

*Super! Group 2, what is the second step?*

Students spread their arms wide above their head and reply loudly,  
*Find the important idea!*

*Alright! Group 3, what is the third step?*

Students make a question mark using their arm and hands. *Turn the important idea into a question!*

*Almost there! Group 4, bring us home. What is the last step?*

Students make a talking motion with their hands. *Answer the question using the details!*

*Wow! Great job class!* Students return to their desks. Mr. Keani directs students to read the text with a partner and to reread if they finish early. When he sees that all the partners have read the text at least once, he brings them back together as a whole.

*Okay, class, the last time we worked on the question generation strategy, we used one paragraph. We are stepping it up—or challenging ourselves—even more today! Boys and girls, today we are going to work on the entire text paragraph by paragraph! We will use the question generation strategy for each paragraph.*

*Now we've already completed the first step by reading the text. The next step is to . . .*

*Find the important idea,* responds the class.

*I will model the first paragraph. I am going to show you what happens in my head as I work through the question generation strategy. Then we will work through the second paragraph together. If you are ready, then you and your partner can work together on paragraph 3 and then the remaining paragraphs.*

*To help us organize our thoughts, I'm going to use a graphic organizer. This is the same organizer we used the last time when we worked on the question generation strategy.* Mr. Keani shows the students an enlarged version of the graphic organizer on chart paper. (See Appendix D.)

Mr. Keani shows the first paragraph on the overhead presenter.  
Mr. Keani reads out loud and then starts to think aloud.



By now, you know you can ignore that section on Pluto in your science books. In 2006, a group of the world's astronomers, or scientists that study space, decided that Pluto is no longer an official planet. Pluto does not fit the new definition of a planet.

*(Pluto is Out!, 2006)*

*I read the first paragraph and learned there was a meeting of astronomers, or scientists, that study space. At this meeting, they decided Pluto isn't an official planet. It doesn't fit the new definition of a planet. Hmmm . . . What is the author trying to tell me? What is the important idea? Let me look at each sentence to help me figure it out.*

*Well, I know sometimes I can find the important idea in the first sentence. The first sentence tells me that I can ignore the section on Pluto in my science book. Is the rest of the paragraph about the Pluto section in my science book? Hmmm . . . No, the rest of the paragraph doesn't tell me about my science book or the part about Pluto. Oh, yes, I remember sometimes authors use the first sentence to introduce the topic. I think that is what the author is doing here. The first sentence is introducing the topic, telling me that I'm going to be learning more about Pluto.*

*The second sentence is about astronomers deciding that Pluto isn't an official planet anymore. Is the author trying to tell me about how the astronomers decided Pluto is no longer a planet? Is there more information about where they made this decision or who specifically made the decision or if they voted in person or on the computer? I don't see that sort of information in the text, so the important idea must **not** be about the astronomers making the decision.*

*Is there more information about the decision that Pluto is no longer a planet? I see the last sentence tells me Pluto does not fit the new definition of a planet. That tells me more information about why Pluto is no longer a planet. I think this could be the important idea: Pluto is no longer a planet.*

*But I still want to check the last sentence to see if it is the important idea. The last sentence tells me that Pluto does not fit the new definition of a planet. Oh, I see that this can't be the important idea because there isn't additional information about the new definition.*

*Then I must have the important idea! The important idea is Pluto is no longer an official planet. I will write that in my graphic organizer.*

*Boys and girls, now that I've found the important idea, what is the next step?*

*Turn the important idea into a question!* shout the students.

*Yes, that's right!* concurs Mr. Keani. *Let me look at my question starter bookmark to find all the question starters. I will try to put each one in front of the important idea sentence that Pluto is no longer a planet.*

Mr. Keani knows that he's modeled and taught students to begin with the question starters *why*, *how*, and *what*. However, he's seen his students repeatedly first use the question starters *who*, *where*, and *when*. He purposely begins with these question starters to remind students to use question starters *why*, *how*, and *what* instead. He also plans to distribute revised bookmarks with *why*, *how*, and *what* as the first three question starters listed.

*Who . . . Who is no longer a planet? That doesn't really make any sense because I know when I use who, the answer most likely is a person. Pluto isn't a person or being. Let me try our next question starter.*

*Let me work on where . . . Where is no longer a planet? That doesn't make any sense either, and I know that the answer to a where question is usually a location or place. The text doesn't mention where Pluto is in the solar system, so I'm thinking this isn't a good question at all.*

*When . . . When is Pluto no longer a planet? Well, I know that scientists that study space—astronomers—decided in 2006 that Pluto was no longer a planet. But that question seems kind of dry. I'll put when on my graphic organizer to remind me that could be a question.*

*Remember, boys and girls, I'm looking for juicy, or mango, questions. I don't want a dry, or banana, question.*

Mr. Keani points to the “Juicy or Dry?” anchor chart with examples of integrative and nonintegrative questions.

*Hmmm . . . funny how none of these question starters have worked so far. Oh, silly me. I forgot that I should start with why, how, and what first! In fact, when I look at our “Juicy or Dry?” anchor chart, I see that most of the juicy questions begin with why, how, and what. Let me go on and see what sorts of questions I can make with why, how, and what.*

Why . . . Why is Pluto no longer a planet? *Oh . . . that seems like a juicy question. There is another sentence that explains Pluto isn't a planet because it doesn't meet the new definition. And the text also tells me that astronomers decided that Pluto no longer is a planet. Oh, and the text tells me that this was decided in 2006. Whoa, this seems like a very juicy question. But let me check the next question starter because it could be an even juicier question. I'm going to write why in capital letters in my graphic organizer to tell me that it is a very juicy question starter for this important idea.*

How . . . How is Pluto no longer a planet? *This is a funny question because it doesn't really make much sense. Astronomers made the decision that Pluto was no longer a planet. But I don't see any more information about how they made this decision. I don't know if they voted or decided some other way. And if they did vote, I don't know if it was in person or on the computer. I don't think this is a good question because it doesn't make much sense. Let me move on to my last question starter.*

What . . . What is no longer a planet? *That might work. Pluto is no longer a planet. I will keep that in my head. I'll write what on my graphic organizer to remind me this could be a good question.*

*Let me look at my graphic organizer. I see I could use the questions When is Pluto no longer a planet? or Why is Pluto no longer a planet? or What is no longer a planet? Well, the juiciest question is definitely Why is Pluto no longer a planet? so I'm going to put it in my graphic organizer.*

*Okay, now that I have my question, what do I do?*

The students make talking motions with their hands. *Answer the question using the details!*

*That's right, says Mr. Keani. Let me look at the details and record them on my graphic organizer. I know the details will help me answer the question. Well, I already know that astronomers decided Pluto was no longer a planet. I know they decided this at a meeting in 2006. And I know the reason Pluto is no longer a planet is because it doesn't meet the new definition of a planet. Mr. Keani records the details on a graphic organizer.*

*I think I need to squish all this information together to answer the question. Let's see . . . I could write Pluto is no longer a planet because it does not meet the new definition of a planet. Astronomers decided Pluto was no longer a planet in 2006. Hey, I think that works! Thumbs up or thumbs down?*

Students show thumbs up. Mr. Keani writes the answer in the graphic organizer.

*Now, let's try the next one together.*

Mr. Keani and the students complete the question generation strategy for the second paragraph. They create the question *How is Pluto different from the other planets?* and the answer *Pluto is different than the other planets because it has an odd orbit and is the smallest and coldest of the group.*

Because the students show they are able to successfully complete the question generation strategy, Mr. Keani feels comfortable having them work in groups independently. Although students worked in pairs earlier, Mr. Keani knows they need more peer support in order to successfully complete the strategy for this lesson.

*Continues Mr. Keani, Super work, boys and girls! Okay, now it is time for you to try it on your own! You will be working in groups of three.*

Mr. Keani places the students into groups of three. Students move into their groups.

*Each of you has a job. Please refer to the red folder on your desks. In the folder you have a set of task cards. The task cards give each of you a role. Remember, we learn from each other, and we can accomplish more by working together than by working alone.*

*Now, each role card tells you your job and what to say to the other group members. There is a reader, an important idea finder, and a detailer. Please choose your role now.*

Students talk in their groups and choose roles. Mr. Keani calls the class back together.

*Okay, now that you've chosen your role, I'm going to review each role. Please pay close attention, boys and girls. We will be using these roles often when working with question generation. You are going to be expected to use these roles next time without my having to explain each role.*

Mr. Keani shows each card on the overhead presenter as he reviews each role and responsibility.

*The reader reads the text, the important idea finder finds the important idea, and the detailer finds the supporting details. All group members must agree on the answer before moving forward. I've given you questions to ask each other before moving to the*

*next step. For example, as the important idea finder, your job is to share the paragraph's important idea. You say to your group, The important idea of this paragraph is \_\_\_\_\_. Do we agree or disagree? Remember, everyone needs to agree before the group moves on. Your group will work together to create the integrative question and to answer the question. You are all responsible for completing your own graphic organizer.*

Mr. Keani then places the Group Task Sheet on the overhead presenter. It gives students the directions for the activity.

*I will leave the Group Task Sheet—your directions—on the overhead presenter. You see that you will need a highlighter and pencil for this activity. You will need the highlighter to highlight the important idea. The details will be underlined with your pencil.*

He then points to the enlarged version of the graphic organizer they completed for paragraph 1.

*I will also leave the graphic organizer we just completed for paragraph 1 on the whiteboard. If you get a little mixed up while you are working, you can look at it to help you.*

Mr. Keani sets student expectations because the lesson is differentiated for his students. Students needing more support find the important idea from a list of choices. They are also given question stems as support.

*Now each group may have different-looking worksheets. That is fine. You all will have a completed graphic organizer by the end of the group work.*

*Before you begin, I'm going to pass out a new question starter bookmark. This bookmark is different from the one you already have because it has the question starters why, how, and what at the top. This will help us remember to use these question starters first when turning the important idea into an integrative question.*

*Any questions?* Mr. Keani pauses. *Okay, since there are no questions, please move into your groups.*

Mr. Keani circulates around the classroom, observing students, questioning and clarifying student work, and providing support as needed. He notices students first begin using *why*, *how*, and *what* to turn the important idea into an integrative question. He also notes that for the most part, students are successfully completing the strategy. When students are finished, Mr. Keani brings the class back to whole group. They review the questions and answers. Mr. Keani moves on to reviewing the “I Can” statements and objectives. He then asks the students to articulate how question generation helps them as a reader.

*I like asking questions because it shows me how much I've learned,* says Marissa.

Mr. Keani is pleased. He closes the lesson by asking students to reflect and write about how question generation helps them as a reader. Students record their thoughts in their question log or reading journal.

After school, Ms. Alohi and Mr. Keani meet to debrief the lesson.

*What are your thoughts about the lesson? What went well and what would you do differently?* asks Ms. Alohi.

*I wasn't as nervous as I thought I'd be with you observing. I kept telling myself that it's just like being a student teacher, and I remembered that I learned a lot of really valuable lessons from those observations. I also realize students kept looking back at you. I should have introduced you and explained why you were there and what you were doing. But I think the lesson went well,* responds Mr. Keani.

*I'm glad you weren't as uncomfortable as you thought. And yes, I agree, it is always good to explain to students what other adults are doing in the classroom. Sometimes students think the adult is observing them rather than the teacher. It can make some students nervous. However, I didn't notice your students being particularly bothered by my presence. Moving on to the lesson, what evidence do you have that the lesson went well?* probes Ms. Alohi.

*I looked at their graphic organizers, and students were able to complete the entire strategy and correctly ask and answer questions,* Mr. Keani explains. *The differentiation helped almost all the students succeed, and I'm really happy about that. I took a professional development class about differentiation, and that helped me figure out a way to scaffold the concept for students. I also had a wonderful mentor teacher that does tons of group work. I used some of her materials for the group work.*

*Yes, I agree the differentiation really made a difference. The group that had question stems was able to complete the strategy and was really excited to have done so. What else do you think you did to help students be successful?* questions Ms. Alohi.

*Teaching my students each of the skills individually really helped build up to completing the entire strategy. And working with just one paragraph before tackling an entire text helped too. I think having students work with a familiar text helped the most. I had already reviewed the vocabulary and students had read the text at least twice before today's lesson. Last, I think the explicit instruction and modeling helped quite a bit,* answers Mr. Keani.



*I'm glad you know your students so well! Clearly, they benefited from learning the skills first. And your scaffolding helped them be successful too. I agree that using one paragraph is a good way to introduce the complete strategy. I also really appreciate your using a familiar text. I first tried using a new text with my students, and they just ended up frustrated. Let me ask you—why did you have students highlight the important idea and underline the details?*

*My students are really visual, replies Mr. Keani. This gives them a visual cue as to which sentences to use for the question and which sentences to use for the answer.*

*Hmmm . . . I hadn't thought about providing my students with a colored visual cue. I have my students underline the important idea. The color cue might stand out more for my students. In terms of questions, what works for my students is to write the question right next to the important idea. It has them physically interacting with the text. Next year I'm going to try the highlighting **and** writing the question next to the important idea. Changing the subject, Ms. Alohi asks, What do you think you could do differently?*

*Mr. Keani observes, You know, it's funny. While modeling and thinking aloud, I realized that students could ask, What is no longer a planet? The question could be integrative as long as students add all the details to answer.*

*Yes, that's right. I had a student ask a question that I thought was not integrative. But she answered it using all the details, making it integrative. That was a huge aha! moment for me. I'm glad you realized that there isn't just one right question . . . especially before the students figured it out!*

*Mr. Keani smiles. You know what I just realized? he exclaims. I could combine the question generation strategy with the KWL chart. By using the KWL chart the previous day, that is, the K and W portions, I could assess students' knowledge about the topic and build student interest and motivation for reading the article. Students could ask their own questions and read to find out. The question generation strategy gives them even more ownership—and hopefully motivation—to read and find the answers to their questions. And the question generation strategy allows those students that haven't contributed questions to the W portion of the KWL with questions to answer during reading. I could wrap up the lesson by using the "What I Learned" column and use it as a formative assessment too.*

*Says Ms. Alohi, That's a great idea. I think I'll use that the next time my students use the question generation strategy!*

*You know, I also see how my hard work with classroom management has paid off!* exclaims Mr. Keani. *My students were pretty well-behaved and on task. This could have been a very different lesson if they were acting out or off task.*

*Yes, it certainly could have!* agrees Ms. Alohi. *I think if students were off task or acting out you wouldn't have been able to finish the lesson and may have had to chunk it into different consecutive lessons. I'm glad your hard work has paid off!*

*And now I'm wondering, what are my next steps with question generation?* muses Mr. Keani.

*Well, more practice and gradually releasing the responsibility to students will help students successfully complete the entire strategy on their own. It will also make the strategy more automatic for them. You may also want to consider what I'm doing with my class. I make the connection between reading and writing,* shares Ms. Alohi. *I show students how to use their question generation work to create a summary. Students string together the answers to form the basis for a summary. Or students may use their question generation work as a study guide.*

*That sounds like a great idea! I'll try it next!* answers Mr. Keani. *Thanks for working with me. I really benefited from working with a colleague and having the strategy chunked out for me. And, more important, my students are now better comprehending what they are reading!*

*It's my pleasure,* exclaims Ms. Alohi. *I'm glad I could help!*

*But, I wonder how I would have implemented a new strategy like question generation if I didn't have a colleague to help me,* muses Mr. Keani.

*Responds Ms. Alohi, You know, some of the teachers that attended the professional development asked the same question. I think there are a couple of possibilities. First, you could have worked with a partner. Some people like the extra support of having another teacher working with them while trying a new idea or concept.*

*Second, you could have tried question generation on your own. I know some teachers prefer to work through the process by themselves. I think this takes discipline to keep good notes about what works and what doesn't work. And it takes perseverance not to give up. But even the teachers that work alone tend to bounce ideas off others and reflect on their practice. It is through this reflection that they can figure out how to tweak or change their teaching*



*to help students successfully complete the question generation strategy.*

*Thanks, says Mr. Keani. I see that I can try other new strategies on my own or with a partner. Thanks for the suggestions. For right now though, I'm looking forward to continuing to work on question generation.*

*Me too!* quips Ms. Alohi.

## Overview of Key Points

The key points for the question generation strategy include the following:

- Create a questioning environment to encourage students to ask questions during reading. This sets the stage for the question generation strategy.
- Teach students how to ask and answer questions. This is a skill needed to complete the strategy.
- Consider teaching the prerequisite skills individually. These skills are: turning a statement into a question and answering it, finding the important idea in text, and turning the important idea into an integrative question and answering it. Each skill should be explicitly modeled and scaffolded. Thinking aloud reveals the thought process for students.
- Students can engage in the entire strategy with appropriate scaffolding. Keep in mind that students don't need to master all the prerequisite skills in order to complete the entire strategy.
- Asking and answering integrative questions is a recursive process. Students will engage and reengage the text to ask and answer these questions.
- Connect the question generation reading strategy to writing by using the answers to create a summary.
- Continually assess student progress and reteach as necessary. Formative assessment will drive the pace and depth of instruction.

In conclusion, asking questions during reading is an important strategy that can improve students' reading comprehension. By using the question generation strategy, students continually interact with the text, thereby improving their comprehension and recall. Ultimately, encouraging students to ask questions during reading builds the foundation for questioning in general and the basis for lifelong learning.

---

## References

- Davey, B., & McBride, S. (1986). Generating self-questioning after reading: A comprehension assist for elementary students. *Journal of Educational Research*, 80(1), 43–46.
- Harvey, S., & Goudvis, A. (2000). Questioning: The strategy that propels readers forward. In *Strategies that work: Teaching comprehension for understanding and engagement* (pp. 81–94). York, ME: Stenhouse.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.
- Oczkus, L. D. (2003). *Reciprocal teaching at work: Strategies for improving reading comprehension*. Newark, DE: International Reading Association.
- Pacific Resources for Education and Learning (PREL). (2008b). *Pacific CHLD teachers' manual*. Honolulu: Author.
- Rosenshine, B., Meister, C., & Chapman, S. (1996). Teaching students to generate questions: A review of the intervention studies. *Review of Education Research*, 66, 181–221.
- Vacca, J. L., Vacca, R. T., & Gove, M. K. (2000). *Reading and learning to read*. New York: Addison-Wesley Educational Publishers.

### LITERATURE CITED:

- Dunford, B. (1980). *The Hawaiians of Old*. Honolulu: The Bess Press.
- Eruption! Mexico's "volcano of fire" roars back to life. When will the next big explosion occur? (2005, November 11). *Weekly Reader, edition 3 (including Science Spin)*, 75(10), p.2 .
- Fabian, S. (n.d.). *The New England Colonies*. Retrieved November 20, 2009 from [http://www.edhelper.com/ReadingComprehension\\_35\\_410.html](http://www.edhelper.com/ReadingComprehension_35_410.html).
- Griggs, C. (n.d.) *Producers and Consumers*. Retrieved January 2, 2010 from [http://www.edhelper.com/ReadingComprehension\\_54\\_833.html](http://www.edhelper.com/ReadingComprehension_54_833.html).
- Harcourt School Publishers. (2006). *Science, Grade 4*. Orlando, FL: Author.
- Pluto is out! (2006, October 6). *Weekly Reader, edition 3 (including Science Spin)*, 76(5), pp. 2-3.

# Appendix A: Question Starters

Directions: Cut the paper below into four cards for each student. Please keep in mind that these question starters are a scaffold to help students learn how to write questions.

<p><b>Question Starters*</b></p> <p>Use one of the following words to turn a sentence into a question:</p> <p><b>Who</b> = Person or people <b>Where</b> = Location <b>When</b> = Time <b>How</b> = Quantity, process, or description <b>Why</b> = Reason or explanation <b>What</b> = Object, description, or process</p> <p>*These are suggested definitions; be sure to read the entire question to understand what is being asked.</p>	<p><b>Question Starters*</b></p> <p>Use one of the following words to turn a sentence into a question:</p> <p><b>Who</b> = Person or people <b>Where</b> = Location <b>When</b> = Time <b>How</b> = Quantity, process, or description <b>Why</b> = Reason or explanation <b>What</b> = Object, description, or process</p> <p>*These are suggested definitions; be sure to read the entire question to understand what is being asked.</p>
<p><b>Question Starters*</b></p> <p>Use one of the following words to turn a sentence into a question:</p> <p><b>Who</b> = Person or people <b>Where</b> = Location <b>When</b> = Time <b>How</b> = Quantity, process, or description <b>Why</b> = Reason or explanation <b>What</b> = Object, description, or process</p> <p>*These are suggested definitions; be sure to read the entire question to understand what is being asked.</p>	<p><b>Question Starters*</b></p> <p>Use one of the following words to turn a sentence into a question:</p> <p><b>Who</b> = Person or people <b>Where</b> = Location <b>When</b> = Time <b>How</b> = Quantity, process, or description <b>Why</b> = Reason or explanation <b>What</b> = Object, description, or process</p> <p>*These are suggested definitions; be sure to read the entire question to understand what is being asked.</p>

# Appendix B: Question Stems

Question Stems	Question Stems	Question Stems	Question Stems
What does _____ mean?	What does _____ mean?	What does _____ mean?	What does _____ mean?
What is _____?	What is _____?	What is _____?	What is _____?
How are _____ and _____ different?	How are _____ and _____ different?	How are _____ and _____ different?	How are _____ and _____ different?
How is _____ similar to _____?	How is _____ similar to _____?	How is _____ similar to _____?	How is _____ similar to _____?
Why is _____ important or necessary?	Why is _____ important or necessary?	Why is _____ important or necessary?	Why is _____ important or necessary?
Explain why _____.	Explain why _____.	Explain why _____.	Explain why _____.
Explain how _____.	Explain how _____.	Explain how _____.	Explain how _____.
Describe _____.	Describe _____.	Describe _____.	Describe _____.

---

## Appendix C: Teaching Students How to Turn a Statement into a Question

Sentence and question structures differ, and turning a statement into a question may involve changing the word order, adding and/or deleting words, and using different punctuation. For example, think about the cognitive process students must use to turn the statement *The tiger shark lives in the ocean* into the question *Where does the tiger shark live?* This requires students to have a good understanding of how language works. Students must add a question starter (in this case, *where*) and another word (a helping verb, in this case, *does*), change the primary verb (in this case, *lives* becomes *live*), delete words (in this case, *in the ocean*), and know how to change punctuation (from a period to a question mark). Because of these complexities, explicit instruction of interrogative language is needed.

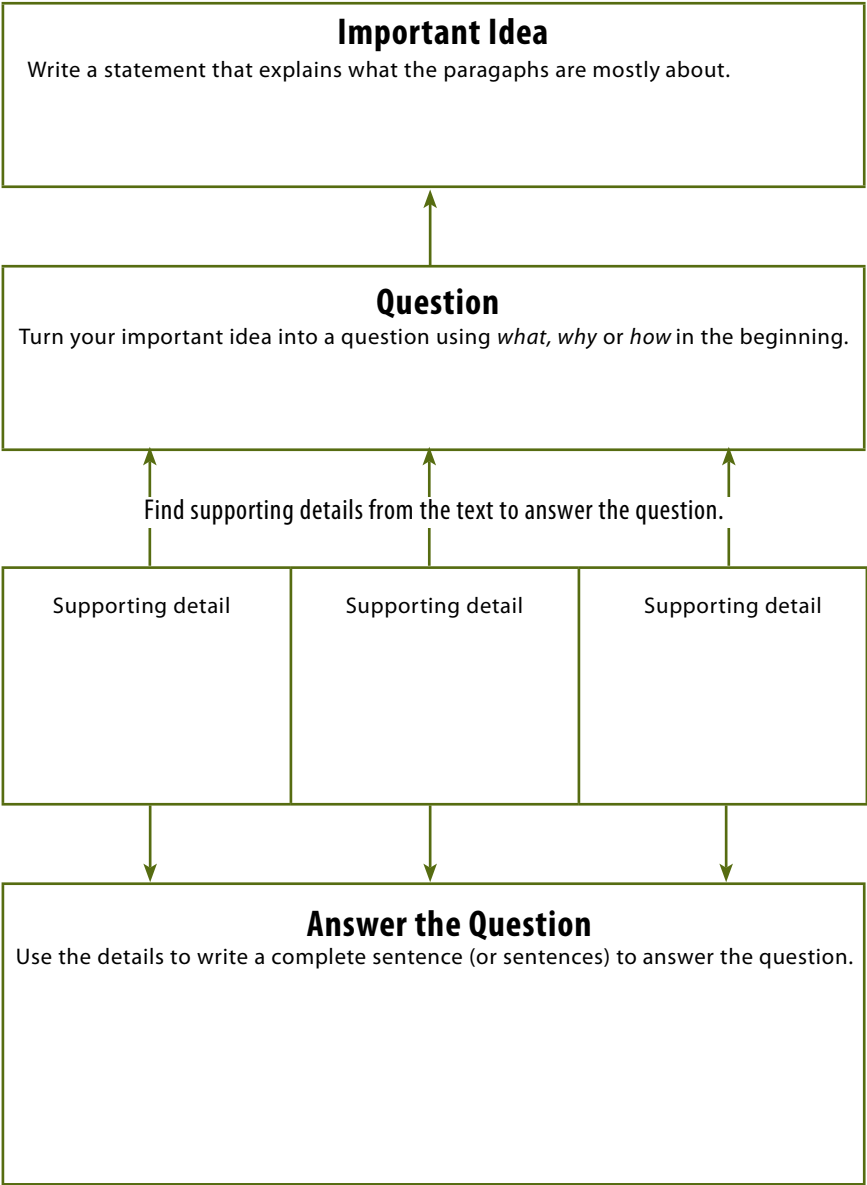
# Appendix D: Graphic Organizer

Name \_\_\_\_\_ Date \_\_\_\_\_

## Question Generation

- 1. Read the article.
- 2. Find the important idea.
- 3. Turn the important idea into a question.
- 4. Find the details in the text to answer the question.
- 5. Write a complete sentence using the details.

Use the question generation strategy with **paragraphs** \_\_\_\_\_.











**Pacific Resources for Education and Learning**

900 Fort Street Mall ■ Suite 1300 ■ Honolulu, Hawai'i 96813

Phone: +1(808) 441-1300 ■ Fax: +1(808) 441-1385

U.S. Toll-free Phone: 1 (800) 377-4773

U.S. Toll-free Fax: 1 (888) 512-7599

[www.prel.org](http://www.prel.org)

*Building Capacity Through Education*